ADOLESCENT HEALTH: TIME FOR A CHANGE

Volume 4: Contractor Documents

1. "Mental Health Services for Adolescents" by Barbara J. Burns, Ph.D. and Carl A. Taube, Ph.D.
2. "Use of Mental Health Sector Services by Adolescents: 1975, 1980, 1986" by Barbara J. Burns, Ph.D., Carl A. Taube, Ph.D., and John E. Taube.
3. "Treatment of Adolescent Substance Abuse: A National Review and Critique" by James G. Emshoff, Ph.D. and Ronnie Margolin.

These contractor documents were prepared for the OTA assessment entitled ***Adolescent Health: Time For A Change***. They are being made available because they contain much useful information beyond that used in the OTA report. However, they are not endorsed by OTA, nor have they been reviewed by the Technology Assessment Board. References to them should cite the contractor, not OTA, as the author.

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MENTAL HEALTH SERVICES FOR ADOLESCENTS

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Office of Technology Assessment's
Adolescent Health Project

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TABLE OF CONTENTS

Introduction

The Current Mental Health Service System for Adolescents in Perspective.............................5

Effectiveness of the Treatment System.......................9

  Treatment Effectiveness...............................10
  Effectiveness Related to Need.........................31
  Effectiveness Related to State-of-the-Art-Care.............................33

Access...37

The Cost of Mental Health Services...................41

Coordination Between the Mental Health System and Other Systems of Care..............................43

Innovations in Service Delivery...........................58

  Community-Based Services..............................58
  Model Systems...74

Summary and Recommendations.............................84

  Policy..84
  Research..95

References..106

Acknowledgements......................................117

DRAFT

Chart

Chart 1. Need for RTC Treatment....17

Chart 2. Outcome of RTC Placement....20

Chart 3. Health/Mental Health Coordination in a Neighborhood Health Center....49

DRAFT

Tables

Table 1. Direct Expenditures for Mental Health Services for Adolescents (10-18), United States, 1986 (in millions)..43

DRAFT

INTRODUCTION

The Carnegie Corporation of New York and the U.S. Congress Office of Technology Assessment commissioned a critical review of the existing mental health treatment system for adolescents within the context of a developmental perspective and with sensitivity to population subgroups. The request called for specific attention to the patterns of mental health utilization by adolescents, the effectiveness and appropriateness of the current system, access, cost, coordination with other systems, opportunities for change in services for adolescents (innovations), and conclusions and policy implications. The section on utilization of mental health specialty sector services has been removed from this report due to its length; it is constituted as a separate report (see Burns, Taube and Taube, 1989).

The preceding mandate is to a great extent far more ambitious than the scientific evidence available. Only recently have similar questions been asked about the overall child service system--adolescents included. While the comprehensive OTA report on children's mental health (U.S. Congress, OTA, 1986) represents a major innovation in assembling information on mental health services for children and adolescents, limitations in the data available and in the research on effectiveness of mental health treatment are apparent. Thus, an expectation that more specific information is available, just several years later, on subgroups of adolescents (between the ages of 10 and 19) may not be

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realistic. In this vein, estimates of service use, when available, are often for children and adolescents between the ages of 0-18 years. We were only able to make two age breaks within the adolescent age range specified, namely 10-14 and 15-18, due to limits in sample sizes of the National Institute of Mental Health (NIMH) surveys. Further, the treatment literature is neither organized nor conducted by small age groups. Many studies mix children over and under the age of 10 and then do not separate treatment effects by age. Thus, the aim of a developmentally oriented review based on age and stage of development has not been fully achieved.

To our knowledge, this report represents the first effort to comprehensively describe the mental health service system for adolescents--prior efforts have focused on services for a more narrowly defined population, namely seriously emotionally disturbed children and adolescents (Behar, 1988; Knitzer, 1982; Thompson, Rosenstein, Milazzo-Sayre, et al, 1986). Although the authors appreciate the importance of a developmental perspective in the provision of mental health services for adolescents, and recognize that the developmental tasks of adolescents will vary over the age span of 10-18 years olds, we do not attempt to delineate such tasks by age or stage (as this has been done by others for the report); nor has it been possible to describe the treatment system in this way. We do recognize that developmental needs should influence the design of mental health services. Of particular importance to service providers is the concept that

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adolescents are progressing toward greater independence and this is manifested in physical growth, cognitive development (a shift from concrete to abstract thinking), increased needs for intimacy (with a shift toward closer peer relationships and changes in relationships with parents or other family members), and finally, the exploration and decision-making about further education and work or career. Although adolescence is not viewed as a period of storm and stress to the extent previously believed, (Powers, Hauser, Kilner, 1989) adolescents are faced with many conflicts, pressures and risks (e.g. substance use, pregnancy, risk for AIDS, limited parenting due to both parents working and many one parent families). The specific stresses of adolescence may contribute to a need for treatment, but existing problems exacerbated by adolescence are more likely the cause of emotional problems and mental disorders. Thus, the developmental needs of adolescence provides a complementary perspective to a clinical one, in contrast to viewing adolescence as the cause of mental illness. Further, significant individual variation in achieving developmental tasks makes age, per se, less important than stage; this also varies by subgroup populations, a topic about which there is limited information.

Application of a developmental perspective to the services data and service research reviewed occurs only in the most fundamental ways. For example, issues such as seeking mental health treatment without parental consent or involvement, or placement of adolescents on psychiatric inpatient units with

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either children or adults, receive attention. Both the clinical literature and the mental health training literature strongly emphasize the application of knowledge about development to clinical practice. According to Gossett (1988, p.203):

> Organizations that develop treatment programs geared toward the needs of specific age groups (that is child, adolescent, young adult) obtain higher success rates than do those utilizing generalized, less age specific treatment programs. This appears to result from attention to patients' developmental needs for certain individual, family, educational and vocational involvement.

Except for rare instances of case descriptions of services designed exclusively for adolescents, a focus on developent is generally not found in the services research literature.

Having specified some of the shortcomings of this report, our review begins with a brief perspective of the mental health service system. This is followed by the topics specified previously.

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THE CURRENT MENTAL HEALTH SERVICE SYSTEM FOR ADOLESCENTS IN PERSPECTIVE

The concept of a mental health service system for adolescents leads one to imagine an organized approach for responding to their mental health needs. "System" has been defined as:

> a group of interacting, interrelated, or independent elements regarded as forming a collective entity (American Heritage Dictionary, 1969, p.1306).

In considering the existing mental health service system for adolescents in the United States it is critical to acknowledge that a system, as defined, does not exist for any group, including adolescents. Instead of elements forming a collective entity, what is observed is a collection of service components which may or may not be linked, organized often under different auspices (e.g. public, private) and varying in configuration and composition from one part of the country to another. Variations in available services and in clinical practice may be even greater for adolescents than for other age groups based on a review of State practices for placing children and adolescents in institutional settings-- observed in the recent National Mental Health Association (1989) report, Invisible Children. A quote by Hobbs (1975) is still relevant in the late 1980s:

> Report after report stresses the absence of any overall design for the delivery of services, the dispersion of responsibility among dozens of agencies, the fragmentation of effort and the frequency with which children get lost in the system.

Although the term "service system" is used, the reader is cautioned that it is used loosely. The lack of an integrated and well organized service system is not due to an inability to conceptualize this need, as multiple commissions and study groups have made such recommendations for many decades. Extensive efforts to implement legitimate systems of mental health care have occurred. Several significant ones are the child guidance movement and the community mental health center and neighborhood health center movements in the 1960s. In education, PL 94-142 was thought to have the potential to pull together the range of services needed by handicapped children and adolescents through the school system. More recently the NIMH, through its Child and Adolescent Service System Program (CASSP) and through Public Law 99-660, the 1986 Mental Health Planning Act, is attempting to facilitate State efforts to develop comprehensive mental health services for seriously emotionally disturbed children. At a community level, foundations such as Annie Casey and Robert Wood Johnson, are supporting the development of model programs. Further, better delineations of the aims of the mental health service system, operating principles and descriptions of service components are now available (see Stroul and Friedman, 1986). For example, the preceding authors defined a system of care for severely emotionally disturbed children and adolescents which applies equally to the potential range of mental health problems:

> A comprehensive spectrum of mental health and other necessary services which are organized in a comprehensive network to meet the multiple and changing needs of children

DRAFT

> and adolescents who are severely emotionally disturbed and their families, (p. iv).

Further, these authors recommend that services be child-centered, family-focused and community-based and include the following components:

1) Mental Health services
2) Social services
3) Educational services
4) Health services
5) Vocational services
6) Recreational services
7) Operational services

It is not entirely clear why earlier major efforts to develop a child and adolescent service system have not succeeded. Although both federal and state legislation and funding relevant to the provision of mental health services for children and adolescents have been enhanced, apparently it has not been feasible to obtain a critical mass of policy, financing mechanisms, resources, knowledge, manpower, organizational expertise and goodwill over a sufficiently sustained period of time to establish an adequate service system for adolescents in many parts of the country.

The 1990s offer a new era for major change backed by updated recommendations from such organizations as the Institute of Medicine (1989), the National Mental Health Association (1989) the Carnegie Corporation (forthcoming) and others. New forms of

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treatment and service delivery models are being tested and should offer guidance about improved methods for providing care in the community. Leadership by NIMH and other parts of the federal government concerned with human services (including the Health Care Financing Administration) working with states can capitalize on the current impetus to develop a system of care. It is from this optimistic perspective that the present "non-system" is presented and examined.

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EFFECTIVENESS OF THE TREATMENT SYSTEM

Answering the question of how effective the mental health treatment system is can be done in a number of ways. It can be approached from the perspective of the efficacy of specific service components, raising the issues of what type of treatment is effective for which disorders, and under what circumstances? To address this set of issues the literature on the outcome of inpatient, residential treatment centers, partial hospitalization and outpatient services is reviewed. A second approach addresses the gap between need for any type of mental health service and use of service. This involves linking epidemiological estimates of need for services to data on the use of mental health services. Such estimates should be based on community surveys which collect information on mental illness and service use. This information will be available in the future when the child and adolescent epidemiological catchment area studies are conducted. In the interim, only rough estimates of the ability of the service system to provide care for troubled adolescents are feasible. A third approach requires examination of whether services are actually provided appropriately: whether those adolescents who receive treatment actually obtain the level of care needed, and whether the services provided meet state-of-the-art criteria for care. Ideally, one would turn to the quality assurance literature for guidance on this topic to determine how well the service system operates for individual clients. For

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example, is it feasible to obtain needed services along a continuum of care in a timely manner? Effectiveness, in this sense, raises issues of continuity of care or coordination, related to how well a system is organized to provide care. This is dealt with (to the extent that scientific information is available) in the section on Coordination, and to some extent in the section on Innovations.

This section reviews the efficacy research on the four levels of care. Following this are discussions about the gap between need for mental health services and use of mental health services and the relationship between effectiveness and appropriateness of services.

Treatment Effectiveness

Treatment studies covering the four levels of care are reviewed, relying heavily upon a previous report by the U.S. Congress, OTA (1986), and updating it with new studies that have appeared in the literature. In each section the history and purpose of the service level are described first. The virtual lack of well controlled studies is highlighted, as are limitations regarding a developmental focus. The absence of large scale treatment research on minority populations hampers the possibility of reaching conclusions about usefulness for particular minority groups. Further, research on new forms of treatment has been reserved for the section on Innovations.

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Inpatient Services

There is limited research on inpatient mental health services for adolescents. Most of it has described the types of care delivered within the inpatient setting, but very little has been done on the outcome of inpatient psychiatric care. Controversy exists over the use of inpatient services for adolescents with mental disorders. Knitzer (1982) reports that at least 40 percent of hospital placements are inappropriate, and that these clients could have been more effectively treated in an outpatient setting or in a residential care setting. Recent concerns surround skyrocketing admission of adolescents to psychiatric hospitals (Weithorn, 1988, and see Utilization report, Burns, Taube and Taube, 1989).

Inpatient care is intended for adolescents experiencing episodes of the most severe disorders. All ages of adolescents are served in inpatient settings, with little differentiation in the type of treatment by age of the patient. Many psychiatric hospitals do not have separate wards for adolescents, forcing them onto child or adult wards. Neither option supports the developmental needs of the adolescent patient. Adolescents in the higher end of the age range (17 or 18) are often placed in adult wards for treatment. A young person admitted to the hospital for the first time, who is surrounded by chronically ill adults, may mimic bizarre behavior observed on the ward, and regress, rather than progress (Knitzer, 1982). Adolescents on adult wards may not be given adequate education and other age-relevant services because the activities on the adult wards are geared toward adults. Further, a therapeutic milieu, appropriate for psychotic adult patients, may not provide sufficient structure for active adolescents. Alternatively, adolescents in the lower part of the age range are often placed on a child ward, as their illnesses may resemble those of younger children. This can contribute to regression, therefore hindering treatment. The inpatient setting is extremely restrictive, wards are frequently locked and independence is difficult to foster under such conditions.

The cost of hospitalization ranges from $300 to $500 a day (Stroul and Friedman, 1986). This is the most expensive treatment setting available to an adolescent patient with mental illness. Between 1980 and 1988, adolescent admissions to private psychiatric hospitals increased by an estimated 450 percent, rising from 10,764 youth to 48,375 youth. In 1987, the mean length of stay for adolescents was 43.7 days, at a cost of $377 a day. Thus, the per episode cost of private psychiatric hospitalization for adolescents was greater than $16,000 per adolescent (National Association of Private Psychiatric Hospitals, 1988).

Inpatient psychiatric services are available to adolescents in private psychiatric hospitals, in medical and psychiatric units of general hospitals, in state and county hospitals, and in specialty hospitals. The private psychiatric facility tends to be most costly of the three types of hospitals. The general

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hospital provides a substantial amount of inpatient psychiatric care for adolescents. Many general hospitals have separate psychiatric units with treatment programs similar to those offered by psychiatric hospitals (Tuma, 1989).

Stroul and Friedman (1986) identify three purposes of inpatient psychiatric hospitalization for adolescents: short-term treatment and crisis stabilization, evaluation, and long-term treatment.

1) Short-term treatment and crisis stabilization are used when the individual is in acute distress, presenting a danger to self or to others. Length of stay ranges from a few days to several weeks. This service can provide "back-up" to less restrictive services (day treatment or therapeutic group care). Providers appear more willing to treat adolescents in less secure, less restrictive service settings in the community if an emergency back-up facility is available, and accessible when needed.

2) Evaluation. Inpatient care for adolescents is suitable for adolescents needing special testing, especially for neurological, or biochemical components of illness. The length of stay for an adolescent in the hospital for evaluation usually does not exceed 30 days. This category of hospitalization also applies to adolescents who are unwilling to cooperate with outpatient evaluation.

3) Long-term treatment is less frequently used than the above categories. More and more residential treatment centers, day treatment centers, and other community-based services are being used in place of long-term hospital care. However, some short-term stays develop into long-term stays. This is often due to the absence of a discharge placement for the individual. (adapted from Stroul and Friedman, 1986, pp. 59-60)

The sole clinical trial of inpatient psychiatric hospitalization for adolescents, conducted in Brooklyn by Winsberg and colleagues (1980), was innovative for its time.

Patients were randomly assigned to hospital or community treatment after a 1 to 3 week evaluation in the hospital. Behavioral and educational outcomes were comparable for both groups, but on subsequent follow-up, one-half of the hospitalized cohort were in institutions. This was true of only a quarter of the community-treated children. If this study were conducted today, the community cohort would probably not be admitted to the hospital at all. The literature on restrictive settings, such as hospitals and residential treatment settings, generally indicates that these services are no more effective than the non-residential psychiatric services provided in the community (Friedman and Street, 1985; U.S. Congress, OTA, 1986).

The remainder of the literature consists of uncontrolled follow-up studies offering prognostic indicators for the outcome of psychiatric hospitalization. For example, in a follow-up of long term hospitalizations at McLean Hospital, Grob and Singer (1974) profiled the characteristics of successful and unsuccessful patients, identifying them as the "well" and the "sick" patient.

The adolescent patient with a good prognosis has closer family relationships, is not psychotic, and has not been admitted by court referral or because of a suicide attempt. This patient performs well in school while an inpatient, and participates in the hospital activities, has a good mental status and a shorter than average length of stay. Further, such a patient is discharged with the hospital's advice, continues therapy after

DRAFT

discharge, and is seldom readmitted to another hospital. At follow-up, the "well" patient is functioning in school or on the job, has few symptoms or problems, and has a good relationship with his or her family (especially the father). Financial and emotional independence are being attained, enabling the patient to manage his or her own life.

The "sick" patient at follow-up does very poorly on a mental status examination and scores poor or fair in other areas of adjustment. Family relationships are not good, and running away is a common problem. This individual had few social relations in the hospital, and the length of stay was longer than average. School performance is inadequate, as is adjustment, at time of discharge. If the client were working at the time of follow-up, he or she was doing poorly on the job. A significant number of problems and symptoms exist at follow-up, indicating that the client has not begun to manage his or her own life.

Other investigators have identified similar predictors of outcomes. Based on a review of 24 inpatient follow-up studies of children under the age of 12, Blotcky and colleagues (1984) found that good prognosis was positively correlated with adequate intelligence, non-psychotic and non-organic diagnoses, the absence of antisocial features and bizarre symptoms, healthy family functioning, adequate length of stay, and involvement in aftercare. In earlier work, Masterson (1956) identified factors which relate to differential outcomes. These factors include: age, diagnosis, length of hospitalization, time of onset, history of poor pre-morbid social and school adjustment, and poor prognosis at discharge. Prognostic indicators appear to be similar for children and adolescents (Curry, 1986).

The available studies do not delineate the components of hospital treatment which contribute to successful outcomes, nor do they allow conclusions about whether adolescents treated as hospital inpatients would have better, worse, or similar outcomes with non-hospital treatment. The limited research on the effectiveness of inpatient settings for adolescents suggests a critical need for research on this type of care. Increased use of inpatient care for adolescents with conduct disorders has contributed to general scepticism about psychiatric inpatient treatment for adolescents. Research which can inform professionals, payors and consumers about the necessity of inpatient treatment for specific conditions is needed to insure that necessary hospitalization for adolescents with conditions like schizophrenia, severe depression or anorexia nervosa is available.

Residential Treatment Centers (RTCs)

Residential treatment centers provide 24-hour care for emotionally disturbed adolescents in conjunction with a school program. Some also provide outpatient and partial care for local adolescents. These centers are usually freestanding institutions; however, there is a recent trend for psychiatric hospitals to add a residential component to their inpatient services. High risk adolescents (suicidal, psychotic or explosive) are usually not admitted. Length of stay in a residential program rarely exceeds 2 years (Tuma, 1989).

DRAFT

The cost and use of residential care has risen dramatically in the past decade. An estimated $359.1 million was spent on RTCs in 1977 which increased to $573 million (60 percent) by 1983 (Stroup AL, Rosenstein MJ, Millazzo-Sayre LJ, et al, April 1988). By 1986 expenditures for RTC care rose to 978 million dollars a year (Taube, 1989).

Although the value of residential treatment has been questioned in recent years, there are at least three broad categories which legitimize its use. According to Barker (1982) these include: 1) protection of the community; 2) protection of the child; and, 3) benefits specific to residential treatment. These categories, broken down into probable and questionable needs for RTC use (as assessed by the authors of this report), are seen in Chart 1 below:

Chart 1 - Need for RTC Treatment

Category	Probable	Questionable
Community Protection		
murderers	X	
homicidal tendency	X	
rapists	X	
fire setters	X	
runaways		X
truant		X
alcohol or drug use		X
sexual behavior		X
Child Protection		
suicidal	X	
severe substance abuse		X
victim of physical or sexual abuse		X
persistent runaways		X
Special RTC Treatment Benefit		
assessment (Except for psychosomatic child)		X
intensity of treatment	X	
therapeutic living environment		
serious deprivation	X	
some family strengths		X

This summary based on Barker (1982), offers few clear indications for RTC use. Adolescents in the first four

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categories require placement under the justification of community protection, but may or may not benefit from treatment. The next four groups have minor or moderately severe problems. These adolescents are seen as a nuisance by the community and are a potentially negative influence on their peers. Given adequate resources they could be treated in the community, but are placed in RTC's when such resources are not available. The argument for or against a residential placement for protection of the child or for special benefit are more self-explanatory. To a great extent RTC use is often determined by whether there are workable family resources and whether intensive therapeutic services (home-based treatment, therapeutic group homes, or therapeutic foster care) are available in the community. Other conditions thought to require RTC placement are the psychotic child who is out of touch with reality (mentioned subsequently by Barker (1988), and adolescents with multiple conditions (e.g. aggressive acting out combined with a handicapping physical condition), which require more care than is feasible at home.

A comprehensive definition of RTC's developed for CHAMPUS is provided by Margolis and colleagues (1984, p.482):

> A facility or distinct unit of a facility (hospital), organized and professionally staffed, providing general and specialized treatment programs for children and adolescents whose primary treatment problem consists of diagnosable nervous and mental disorders, who have sufficient intellectual potential to respond to active psychological treatment, and for whom outpatient or general hospital treatment is not appropriate and a protective environment is medically and psychologically necessary. RTC's provide total therapeutically planned group living and learning situations where distinct and discrete individualized psychotherapeutic approaches are integrated.

Criteria for admission include the need for: 1) a potentially long term setting; 2) a setting where emotional, social, educational and other individualized developmental tasks can be mastered in a therapeutic relationship not possible elsewhere; 3) a setting with the opportunity to develop new adaptation skills; 4) the availability of parallel psychotherapies given by qualified professionals; 5) a 24-hour milieu; and 6) an expectation that the setting will improve the child's functioning.

Although Margolis and colleagues lay out criteria for RTC placement, the American Psychological Association (APA) Division 37, Statement on Residential Treatment (1988) indicates that there is a lack of consensus in the field regarding which types of adolescents are best treated in RTC's. The APA reports that current criteria for placement are either too imprecise or too narrowly conceptualized to be used for case-by-case placement decisions. They also state that there is presently no single form of RTC--that no single definition of a residential treatment center exists. Therefore, the decision to place a youth in a particular RTC program can not be reduced to a few universally acceptable criteria.

Some relevant concerns about residential care include: 1) treatment may not be effective; 2) this type of treatment is inconsistent with the principle of community-based treatment established in the early 1960s; and 3) the costliness of such services (Friedman and Street, 1985). Other risks of RTC use include a risk for the adolescent to become dependent on the

DRAFT

institution, therefore failing to learn behavior needed in the community, as well as the possibility of trauma, associated with the separation from the family, difficulty re-entering the family, or even abandonment by the family, and the learning of antisocial or bizarre behavior from intensive exposure to other disturbed children (Barker, 1988).

A variety of variables have been assessed in mostly uncontrolled studies in relation to outcome. The results are presented in Chart 2:

Chart 2 - Outcome of RTC Placement

Type of Variable	Findings at Discharge or Follow-up
At Admission	
severe disorder	poor prognosis
organic impairment	poor prognosis
age at admission	unclear prognosis
sex of child	unclear prognosis
dysfunctional family	mixed prognosis
low level of patient functioning	60 percent to 80 percent improve independent of level of functioning at admission
During RTC stay and After Discharge	
length of stay	unclear
academic intervention and gains	good behavioral and social adjustment at follow up
involvement with peers, staff, family	improved at discharge
continued treatment after discharge	improved at follow-up

This summary of factors associated with various outcomes at discharge or follow-up is based on multiple reviews and studies (Maluccio and Marlow, 1972; Weinstein, 1974; Durkin and Durkin, 1975; Quay, 1979; Lewis, Lewis, Shanok et al, 1980; Wilson and Lyman, 1983; Whittaker and Pecora, 1984;). In one of the preceding studies where residents had received two years of intensive treatment and were perceived as clinically improved at

DRAFT

discharge, two-thirds of the graduates subsequently had further placements, severe emotional problems or criminal involvement (Lewis, Lewis, Shanok et al, 1980). Clearly, although this is a difficult population to treat and the outcomes of not providing residential care are unknown, transferring gains from the residential setting back to the community is problematic at best.

Two of the above studies are described in detail because they represent the only (published) controlled studies identified. The first one, a model RTC program, is called Project Re-Education (Re-Ed). Started in the early 1960s, the aim was to develop a new approach for working with emotionally disturbed children based on educational, psychological, and ecological strategies. Because of the shortage of child therapists and the expense of psychotherapy, efforts were invested in training teacher-counselors to work with this population, backed up by consultant mental health specialists. The schools are located in local communities, facilitating therapeutic work with the family, and the child goes home every weekend. Camping is also an important component of the program, inspired by the Outward Bound Schools in England. The average length of stay was four to eight months, and the program cost about half that of traditional residential programs. Project Re-Ed has spread geographically: In 1981 they were located in 9 states. Although designed initially for children 6 to 12 years of age, the program has been successfully applied to older adolescents (Hobbs, 1982).

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This program emphasizes developing the academic competence of adolescents, since academic achievement is often a problem for adolescents with emotional and behavioral problems. There is also a strong emphasis on working with the families and the schools of the referred adolescents while they are in the program, as well as after discharge from residential treatment. The treatment goal of Project Re-Ed is improved adaptation, to better match the child or adolescent within the existing community and social system.

In a study of Project Re-Ed by Weinstein (1974), comparison groups included: 122 adolescent males in Project Re-Ed, 128 untreated disturbed adolescents, and a group of 128 non-disturbed adolescents. The groups were equivalent in age, intelligence and socioeconomic status. At discharge the Re-Ed staff rated 94 percent of the adolescents as moderately or greatly improved; eighteen months after the clients had returned home from Re-Ed, their families reported significant improvement compared to adjustment before entering the program. The treated adolescents improved in self-esteem, control of impulsivity, and internal control. In this study, the disturbed adolescents experienced more benefits than untreated, disturbed adolescents in the community.

The only other controlled study of RTC use was conducted by Rubenstein and colleagues (1978) in Ontario, Canada. In this study, the Parent Therapist Program with specially trained foster parents was compared with a similar group treated in a residential treatment center. Both client groups shared

DRAFT

comparable backgrounds and made similar progress in their respective treatment program. However, residential treatment cost twice as much as therapeutic foster care. Although the therapeutic effects for both interventions seem to be comparable, the additional costs of residential care as well as other potential consequences of this type of intervention offers the policy maker a choice. However, the results of this initial study need to be replicated in other settings and with other populations. The difference between the cost for therapeutic foster care and residential care may resemble a ratio of as much as 1:6 (see Stroul, 1989, pp.72,73).

The research on RTCs consists largely of uncontrolled studies, with the exception of the two not very recent controlled studies described above (Weinstein, 1974; Rubenstein, Armentrout, Levin, et al, 1978). Thus, the existing literature is not enlightening about the potential to substitute RTC care for other levels of care, as this requires comparisons of treatment in alternative settings. Given the limitations of current research, it is risky to reach any strong conclusions about the effectiveness of residential treatment for adolescents. While the literature presented indicates that most children improve with treatment, specificity is lacking regarding the factors associated with improvement, either those related to the adolescent and his/her family, or those related to the intervention. Variables related to the future functioning of adolescents treated in RTCs include overall improvement in functioning at discharge, whether academic gains occurred during

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treatment, and whether successful involvement with peers, staff and family occurred during the placement. In order to insure the long term effectiveness of RTC treatment, it is critical that treatment continue after discharge.

Research to determine the type of young person for whom a residential setting is essential requires clinical trials and long-term follow-up. In the design of such studies attention must be given to the type of condition treated, optimal lengths of stay, age, sex, socio-economic status and racial/ethnic group. Finally, it will be important in the future to demonstrate that positive changes in the child and family associated with RTC care offset the costs and consequences of disrupting family relationships.

Day Treatment

Day treatment, also called partial hospitalization and partial care, is a growing treatment modality for adolescents with mental illness. There are now over 350 day treatment programs for psychiatrically impaired children (Zimet and Farley, 1985). Research on the effectiveness of day treatment for adolescents as an alternative to inpatient treatment generally shows the benefits of a structured environment, while allowing patients to return home at night, thus, continuing involvement with family and peers.

Day treatment is a specialized and intensive form of treatment that is less restrictive than inpatient care, but it is more intensive than the usual types of outpatient care, such as

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individual, family or group treatment. Five to six hours per day are spent in day treatment programs where an integrated curriculum combining education, counseling and family interventions is the most frequently used service model. Partial hospitalization has been used as a transitional service after psychiatric hospitalization or residential treatment center placement when an adolescent no longer needs 24 hour care, but is not yet ready to be integrated into the school system; it is also used to prevent institutional placements.

There is more flexibility in day treatment than in other outpatient services. Most are like schools with treatment worked into the curriculum (Tuma, 1989). A range of therapies can be provided that are not usually available at clinics or in private offices. Some typical features of day treatment/partial hospitalization include: individual and group counseling; family services, including counseling and parent training; vocational training; crisis intervention; skill building (with emphasis on interpersonal and problem-solving skills, and on practical skills for everyday life); behavior modification; and, recreational therapy, art therapy, and music therapy, designed to enhance social and emotional development (Stroul and Friedman, 1986).

A recent survey of 100 programs serving children and adolescents sampled programs from the mailing list of the American Association of Partial Hospitalization (Kiser, Pruitt, McColgan et al, 1986). Selected descriptors are presented. Maximum program size is 30 clients with age groupings of 5-12 and 12-18 years. Disorders among adolescents that are successfully

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treated (based on clinical impressions) include conduct disorders, adjustment disorders and affective disorders. Treatment orientations are diverse and include the following types, in order of frequency: eclectic, systems theory, behavioral, milieu and analytic. These programs are supported largely by state funds (40%) with another 16% from Medicaid; school (7%) and health insurance (7%) support are minimal.

Twenty published papers describing the effectiveness of day treatment for adolescents (within the age range of 10-18 used throughout the report) were identified. These papers represent a combination of program model descriptions and assessments of prognostic indicators and outcomes. However, none of these studies included a comparison group, and long term follow-up studies are rare since many programs were developed recently.

Among the model program descriptions, several are highlighted because of a special population focus or an unusual approach to treatment. First, the City Lights program in Washington D.C.

> enrolls black adolescents who have been written off by the schools as unteachable, by the juvenile justice system as intractable and by the mental health system as untreatable (p. 214, Tolmach, 1985).

The program uses self-paced computer-assisted education in the context of a therapeutic milieu. A long term evaluation is planned, but impressive initial results show that it is feasible to keep this population in school, to increase their reading and math skills by 1.5 grade levels a year and that only 10% were returned to hospitals or jails. Alternatively, a Florida program for emotionally disturbed adolesclents emphasizes the development

DRAFT

of social skills to deal with peer conflict (e.g. "fair fighting" is taught) and disruptive behavior in ways that promote problem solving (Friedman, Quick, Mayo, et al, 1983). Initial results address the issue of placements at a one-year follow up and cite major reductions in placements to foster care, shelter care, psychiatric units and settings for delinquents.

Prognostic indicators have not been examined as extensively as in the studies of adolescents treated in hospitals or residential settings. Two which may be important are age when partial hospitalization starts (younger being more positive) and family involvement during day program treatment (see reviews by Gabel and Finn, 1986, and Baenen, Stephens and Glenwick, 1986).

Overall, the literature points to positive gains from adolescent use of day treatment. They fall into the following areas: 1) academic and behavioral improvement; 2) reduction or delay of hospital and residential placements; and 3) a return to less restrictive school placements for about 75% (see reviews cited above). Day treatment programs are not being used as frequently as they might be because third-party payors are reluctant to support this type of treatment, claiming that the modality is ambiguous, that it creates a patient population that would not otherwise seek treatment and that length of stay, treatment outcomes and costs are unpredictable (Kiser, Pruitt, McColgan et al, 1986). Research which is responsive to the above issues is needed.

DRAFT

Outpatient Services

In outpatient settings a wide range of psychotherapeutic approaches are utilized ranging from individual, group and family therapies, to psychotropic medications. These traditional approaches vary in orientation with psychodynamic, behavioral, and supportive therapies representing the most common types. Length of treatment also differs, ranging from 8 to 12 sessions for brief therapy, to up to five years or more for psychoanalysis- less frequently used in the 1980s for all age groups. Adolescent users of outpatient services typically consume only one or two visits, indicating that a large proportion (about 30%) of potential clients drop out after an evaluation (Thompson, Rosenstein, Milazzo-Sayre, 1986). Outpatient services also include other types of nonresidential services, (e.g. home-based, crisis services, hotlines [reviewed under Innovations] and emergency rooms).

Psychotherapy

Outpatient treatment is the most common form of treatment and the level of care with the largest research base. Outcome research on psychotherapy with children and adolescents was slower to develop than for adults and such studies have not been as well specified with respect to diagnosis or treatment approach. Since the research on psychotherapy for children and adolescents was thoroughly reviewed by the U.S. Congress, OTA, in 1986, a re-review of this literature was not conducted. Selected findings pertaining to adolescents are highlighted. In addition, a more recent meta-anaylsis and a further study are described. The single earlier review concerned specifically with adolescent therapy outcomes between 1966 and 1977 found only five studies, meeting criteria for basic methodological soundness (Tramontana, 1980). In general, the earlier studies have accumulated considerable evidence which suggests effectiveness for a wide range of treatment modalities for children and adolescents. Most studies, however, are plagued by a wide range of methodological problems, including: 1) failure to use actual patients in treatment; 2) use of inadequate comparison groups; 3) lack of specificity of the conditions or type of impairment treated; 4) limited delineation of therapeutic interventions studied; 5) poorly developed outcome variables; 6) inability to differentiate the effects of psychotherapy from other interventions; 7) little ability to examine effectiveness by age group or developmental stage; and 8) minimal attention to minority populations.

A recent meta-analysis (Weisz, Weiss, Alicke, et al, 1987) studying psychotherapy outcomes for children and adolescents addressed the issue of age with greater precision. The Casey and Berman (1985) meta-analysis, in which the upper end of the age continuum was 12, did not find differences related to age. Weisz and colleagues (1987) extended the age range to 18 and found that therapy was less effective with adolescents than children and that professional training seems to be more critical for older, more difficult to treat clients.

DRAFT

The overall treatment effect for both meta-analyses was positive and of a similar size, in contrast to a subsequent study by two of the above investigators (Weisz and Weiss, in press). This further research in naturalistic treatment settings raises a question (at least) about whether the implementation of psychotherapy in clinic settings is optimal. The outcomes of children and adolescents from nine clinics who completed a course of therapy were compared with the outcomes of dropouts after the intake evaluation. The groups were comparable at intake on demographics, family and clinical measures. Follow up evaluations at six and twelve months after termination of therapy showed no significant effects of therapy and this finding was consistent for both age groups (6-12, 13-17).

Psychotropic Medications

Research on the effectiveness of psychopharmacological agents is also not reviewed extensively (see U.S. Congress, OTA, 1986). According to Ryan and Puig-Antich (1987) the psychiatric disorders that are responsive to psychotropic medications are similar for adolescents and adults, including schizophrenia, bipolar and unipolar depressive disorder, panic attacks and generalized anxiety disorder. Attention-deficit disorders represent an exception. Significant differences between adolescents and adults stem from biological (a shorter mean half-life of most medications for adolescents) and psychological differences, where issues of the autonomy and independence of an adolescent are often manifested in struggles over taking psychotropic medications.

DRAFT

Despite the reassurance of these authors about similar responses to psychotropic medications for adults and adolescents, they are careful to identify a number of cautions based on a very limited research literature specific to adolescents. For example, only two studies with small numbers have addressed the effectiveness of tricyclic anti-depressants for adolescents; there are no controlled studies on the use of lithium; and for the anxiety disorders, controlled studies have been done only on separation-anxiety disorders. In contrast, evidence for effective use of stimulants for attention deficit disorder and hyperactivity which continues into adolescence is stronger, also true for the use of neuroleptics for adolescents with schizophrenia. However, special attention to the risk of tardive dyskinesia is urged as it may occur within three months of neuroleptic treatment.

A need for substantially more research on the effectiveness of psychotropic medications for adolescents, particularly the use of antidepressants, is quite apparent, especially because of potentially serious side effects and the risk of abuse of other substances such as alcohol or marijuana in combination with these drugs. Research on the long term benefits and effects of most types of psychotropic medications for adolescents is lacking.

Effectiveness Related to Need

An effective service system should be able to meet the mental health needs of those who require treatment. There are no national studies which examine the relationship between the need

DRAFT

for mental health services based on state-of-the-art epidemiological measures and the use of services for the adolescent population. Thus, the current method available to identify the gap between need and use involves applying available prevalence estimates to national mental health service use data. As there are no specific US estimates of mental illness in adolescents, combined rates for children and adolescents are used. Knitzer (1982) estimated that 5 percent are seriously disturbed, while Gould and colleagues (1980), based on a review of existing epidemiological studies, estimated that 12 percent need mental health services. If less than 2 percent (see Utilization Report) of adolescents receive any mental health services, (exclusive of private practice and some of the other types of services not included in this estimate), then the rate of unmet need ranges from 3 to 11 percent of this population. Stated differently, (depending on whether the 5 percent or 12 percent estimate is used), 80 to 91 percent of those who need care do not receive any care in the mental health system.

While this estimate does not include services provided in other human service sectors or self-help, the low rate of provision of mental services by the mental health sector is appallingly low even with conservative estimates of need for mental health services. At the most, 2-3 percent of adolescent visits to health providers are for emotional and behavioral reasons, based on the 1980 National Ambulatory Medical Care Survey (See Anglin chapter on the health care system in this report); another 2% may be seen by school psychologists (see chapter on schools in this report) and overlap among these provider groups is likely, thus not significantly boosting the total estimate of service use. The number of adolescents receiving mental health services from the social welfare or juvenile justice systems is not known, nor are there estimates of use for self-help.

Any number of reasons can account for this level of failure by the mental health systems. In some areas the problem is that services are not available. In other situations where services do exist, barriers to accessing them (e.g. lack of insurance to pay for care, stigma, lack of belief in the value of treatment) result in low rates of use. Limited coordination of services between the large public and private sector agencies where adolescents receive other services (schools, juvenile justice, health, social services) also does not encourage use of mental health services. Some of the "missing" mental health services are provided through these sectors, usually separate from the mental health system, (described further in other sections of this report). A range of very different issues contribute to what makes an ineffective service system.

Effectiveness Related to State-of-the-Art Care

Another way to assess effectiveness is to look at whether mental health services, when they are provided, represent high quality care. This can be examined from the perspective of the appropriateness of the level of care provided. How many are served at too restrictive a level of care, and how many do not receive sufficiently restrictive services? In this vein, questions have been raised about overuse of hospitals and RTCs due to insufficient services in the community, particularly those which are intensive enough to handle a serious crisis.

An underlying problem is that clear criteria for use of different levels of care do not exist (Friedman and Street, 1985). The decision to provide care at a given level is largely a function of clinical judgement and the resources available. For example, it is not even clear whether the criteria for adolescent inpatient admissions should follow the same guidelines (dangerous to self or others) as those for adults. The legal system is likely to assume more authority for such decisions (Appelbaum, 1989) in the absence of clarity on the part of mental health professionals about when such care is needed. The financing system is beginning to assume more of a role in determining who will receive inpatient care through precertification procedures used by commercial insurance carriers and recent regulations developed by the Health Care Financing Administration for Medicaid-reimbursed inpatient care for adolescents. Other regulatory agencies, like state planning organizations which handle certificates of need, can influence hospital use by controlling the number of psychiatric beds available (Melton, 1989).

DRAFT

Hesitancy within the mental health field reflects ambivalence about the need or ability to develop *clear* criteria for use of each level of care and the clinical procedures to be applied. A potential risk is that such criteria would be applied too rigidly and that an emphasis on level of care would diminish the notion of individualized treatment. To some extent the American Psychiatric and American Psychological Associations attempted to resolve this problem with the *Manual of Psychiatric Peer Review* (1985), but these criteria for peer review represent compromises on different views about treatment and thus are not very explicit. In fact, these criteria are only designed for screening to select cases for peer review and do not represent standards.

As observed in the literature on the effectiveness of services at the four levels of care and mental health service use data, somewhat different clinical profiles emerge for each level of care. However, it is not feasible to deduce standards or criteria from such sources. In order to assess whether mental health services provided are adequate or appropriate, very hard-nosed work needs to be done to define a criteria and standards. Despite the recent increases in quality assurance, the focus is still on utilization review, while quality of care issues are neglected (Stricker and Rodriguez, 1988). Assessment of quality requires not only attention to the correct level of care but determinations about whether treatment is provided in an expert, timely and coordinated manner. Beyond the issue of appropriate

DRAFT

use of specific levels of care is an even more critical question about whether treatment plans meet the needs of an individual client across levels and types of care. This requires acknowledging that adolescents may need multiple types of treatment at any given time and that some of these treatment types do not fit into the standard reimbursable services. This represents a fertile area for future development by professional organizations, consumers and payors.

DRAFT

ACCESS

Access to services refers to the potential to obtain mental health services- further defined as getting services, when needed, at an appropriate level, in a facility which is competent to provide them without undue cost (either financial or psychological). Underlying this definition are three requirements: 1) that mental health services are available, meaning that competent clinicians and organizations exist to provide them in the community; 2) that services are affordable, either that insurance, personal resources, or other reasonable services are available; and 3) that services are approachable, meaning that policy and program barriers (e.g. eligibility requirements, long waiting lists) and socio-cultural issues (e.g. fears due to stigma or a lack of confidence in treatment) do not hinder use. Adolescents (and children) face special access issues related to their dependent status. Parental consent is necessary to obtain treatment in most help-seeking situations and parental involvement is required, at a minimum, around the issue of insurance coverage.

Barriers related to availability of services were addressed, in a limited way, in the Effectiveness section, where need for mental health services and service use are contrasted (i.e., when level of need and level of use are comparable, service availability is not a problem). While similar estimates could be derived at state and local levels, disagreement about a general shortage of services is unlikely. Thus, limited availability of services contributes to the access problem. Concerns about access to an appropriate type of care or range of services are manifest throughout the report.

The impact of fiscal barriers is difficult to examine without information about persons who do not use care due to a lack of resources or insurance coverage. However, limited insurance coverage (e.g. only half of outpatient users were covered by commercial insurance or Medicaid) may prevent many adolescents and their families from seeking care. A substantial proportion of adolescents (21.9 percent of 10-14 years and 15.2 percent of 15-18 year olds) have no health insurance coverage, and the rates of no coverage are higher for Hispanics and Blacks than they are for whites (U.S. Congress, OTA, 1989). Furthermore, Hispanics and blacks are more likely than whites to be covered by Medicaid, which varies considerably by State in its mental health benefits.

The approachability of the mental health system is a much more complex issue to assess. Two issues were selected for highlighting; more information is needed on many of the others (e.g. impact of stigma and beliefs about service use). These issues are barriers in a crisis, and access for minority populations.

To begin to address the crisis issue, a recent professional experience follows:

> On a Sunday evening about 7:00 p.m. I (one of the authors, BJB) received a call from parents of an 18 year old male adolescent saying that their son was suicidal (he later admitted to taking an overdose of pain pills shortly before the call). I agreed to find

> a source of help and called the local general hospital with a psychiatry unit to hear that they could not handle anyone who was suicidal, but that he could be sent to the state hospital,(not an appropriate option for a first episode where the environment would be threatening and while only protection from further self inflicted injury might occur). As the family had insurance, calls were made to two teaching hospitals an hour away from their home. Neither had a psychiatric bed available and both would have required a three hour wait in an emergency room before seeing a psychiatrist.
>
> All that they could offer, after a psychiatric evaluation, was referral to the state hospital. The only help received that night was an encouraging conversation between the patient and a volunteer on a suicide hotline. There was no offer of crisis intervention from any of the emergency rooms (i.e. only that a psychiatrist could be called for an evaluation) or any possibility of a home-based team that could come in and work with the family and patient. Late the next day an admission was arranged to a private psychiatric hospital.

In the preceding case, getting access to appropriate services at a time of critical need required almost twenty-four hours. Fortunately, the hotline provided some assurance that help could be obtained, while mental health professional resources were either unavailable, delayed or not likely to be constructive (the state hospital). At a minimum, the three general hospitals with psychiatric units could have offered to arrange a referral to a private psychiatric hospital that evening, but did not. This kind of system insensitivity is not unusual. When mental health professionals can not even get the system to work, it is not surprising that families and adolescents, especially those without resources, become extremely frustrated.

Shifting to the issue of access to mental health services for minority adolescents, a series of serious consequences

DRAFT

associated with minority status and serious emotional disturbance were reviewed by Cross, Bazron, Dennis, and Isaacs (1989):

- black adolescents are placed in the juvenile justice system instead of the treatment settings likely to be obtained by their caucasian counterparts (Comer and Hill, 1985; Hawkins and Salisbury, 1983);
- a native American child will go without treatment or will be removed geographically from the family and tribe (Berlin 1983; Shore, 1978);
- an Hispanic child will be assessed in a language that is not his own (Padilla, Ruiz and Alvarez, 1975);
- an Asian child will not come to the attention of the mental health system.

The preceding observations imply that different approaches to designing or altering the mental health system are needed to increase access for each minority group. The above authors comprehensively address the issue of services for minority children and adolescents in an extensive volume (A Monograph of Effective Services for Minority Children who are Emotionally Disturbed, 1989).

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THE COST OF MENTAL HEALTH SERVICES

Consistent with the rest of this report, we estimate only the costs of specialty psychiatric care specific to the adolescent population. Estimating the cost of treatment, while increasing in sophistication over the years, is still on the rudimentary side. In the case of a specific illness in a specific age group this is especially true. The estimated costs shown in the table below must be considered as "ball park", or "rough" estimates at best.

The general estimation technique used is to apply the percent of total admissions that are adolescent to the total expenditures, within major setting types. Among other drawbacks of this method, it ignores the differential cost of treating adolescents within settings relative to the average patient, and it assumes that the percent of admissions is a reasonable measure of caseload. The latter is probably more true for short stay facilities than longer stay facilities.

Given this estimation technique, the distribution of costs across settings must mirror that of utilization as measured by admissions. However some generalizations may be offered (see Table 1):

* Adolescent costs account for 13% of the total specialty psychiatric costs for all ages in 1986, 7% of the hospital costs, and 18% of the outpatient costs.

* Inpatient hospital expenditures for adolescents are a much smaller proportion of total costs (46%) than for all ages (78%) However, when residential treatment center costs are added to hospital costs, the percent for institutional costs is 76%; 24% of costs are for services in the community (outpatient treatment,

DRAFT

partial hospitalization).

* Hospital expenditures for psychiatric care are also about equally split between psychiatric hospitals and general hospitals; however, the costs for adolescents in private psychiatric hospitals represents a larger share of hospital costs (34%) than for all ages (12%).
* The proportion of total costs for ambulatory care (outpatient) is slightly greater for adolescents (26%) than for all ages (18%).
* Adolescent care includes a major expense category, residential treatment centers, which are not part of the adult costs. These RTCs account for 978 million dollars, increasing by 40% the hospital and outpatient costs of adolescent care, and are 29% of the total costs of adolescent care.

DRAFT

Table 1. Direct Expenditures for Mental Health Services for Adolescents (10-18), United States, 1986 (In Millions)

TOTAL ALL SPECIALTY MH FACILITIES			$3,453.4[1]
Total Hospital Inpatient			$1,592.1
Psychiatric hospitals, total		$852.4	
State	$304.9		
Private	$547.5		
General hospitals, total		$739.7	
Specialty psych. units	$192.2[2]		
Medical units	$547.5[3]		
Residential Treatment Centers for Severely/Emotionally Disturbed			$978.0[4]
Ambulatory Care, total			$883.3
Organized settings		$489.3[5]	
Office based practice		$394.0[6]	

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[1] These estimates are obtained by applying the percent of admissions aged 10-18 (NIMH Sample Survey) to the total expenditures as estimated in Taube, C.A., "Financing and Expenditures for Mental Health", report to the NIMH Division of Biometry and Applied Sciences, 1989.

[2] Includes all specialty psychiatric units and inpatient units of what NIMH classifies as "Multipurpose Mental Health Organizations.

[3] Assumes the same percentage adolescent as occurs in specialty units.

[4] Assumes 100% of expenditures are for adolescents and represents a slight overestimation as residents less than 10 years, although expected to be a small number, are included in this figure.

[5] Includes hospital outpatient programs, free standing clinics and other specialty MH outpatient programs.

[6] Assumes the same % adolescent as in organized settings.

DRAFT

COORDINATION BETWEEN THE MENTAL HEALTH SYSTEM AND OTHER SYSTEMS OF CARE

Coordination between the mental health system and other systems of care (i.e. health, juvenile justice, child welfare, and public schools) is examined in this section. Coordination involves the orderly provision of appropriate services in a timely manner and requires that providers and organizations work together closely. The term coordination is used flexibly as "cooperation", "collaboration", and "integration." Coordination may occur at many levels, ranging from discussion between a mental health worker and a child welfare case worker about an individual adolescent to elaborate inter-agency or even inter-state agreements. First, the unique legal and social status of the adolescent with mental illness is described as it relates to the need for multiple services and cooperative efforts among them. This is followed by a brief description of mental health treatment in other systems of care and discussion about relationships between the mental health system and other service systems. Finally, a summary of barriers to coordination is offered, as well as guidelines and approaches to facilitate greater collaboration across systems of care.

Coordination of treatment for the mentally ill adolescent does not exist except where such coordination is encouraged or mandated at the local, state or federal level, or when innovative demonstration projects are in place.

> This population requires services...[These services] are typically fragmented and uncoordinated. There is no 'system of care' for children and adolescents that

DRAFT

> delivers a full range of mental health and other human services in a coordinated fashion (Knitzer, 1982).

By definition, the adolescent, ages 10-18, is "underage" and not an adult. Most legal rights and obligations are denied to adolescents under the age of 18 and transferred to parents, a custodian or some other legal guardian or advocate. Historically, our society recognizes the essential helplessness of such a position and provides, through legislation, various agencies to protect the welfare of the adolescent and to insure that both basic and developmental needs are met. To fill this need, social services, education, juvenile justice, substance abuse, mental health, health, vocational education, nutrition and various other legislative programs and funding sources have emerged. So have the proliferation of agencies to deliver and to secure needed services.

Thus, adolescents with mental disorders, unlike most mentally ill adults, are subject to multiple jurisdictions and agencies responsible for their welfare and development at the federal, state and local level. Broad issues emerge involving turf, funding, ultimate responsibility for case management and coordination, and relationships to legal guardians, family, or other jurisdictions. The Select Committee on Mental Health of the California Legislature (1984) noted that the mentally ill adolescent is often known by many agencies.

> Our work...has provided the committee with only a general understanding of clinical issues affecting children with mental disorders...we were quickly drawn to the problem of overlap in the existing government programs designed to meet the needs of

the children. In some instances, a dozen different agencies can be involved with one child.

The questions of "who is legally responsible for the adolescent" and "which agency must respond to which needs" represent significant concerns. Although the educational system, the child welfare system, and the juvenile justice system each have legislative mandates to meet the needs of certain classes of children and adolescents, there is no equivalent charge to the mental health system. Because of this, the non-mental health systems are more likely to be viewed as responsible for the mentally ill adolescent. Much greater fiscal resources exist within these systems which have a choice of providing mental health services directly, coordinating with local mental health systems, or paying for treatment elsewhere (often in private residential treatment centers).

According to Lourie and Isaacs (1988), the process of seeking additional services requires the following:

> Entry into mental health care does not make entry into other agencies any easier. If a child in a mental health system needs services from another agency, he or she must qualify and enter that agency as would any other individual. When entry into the new agency has occurred, the new agency most often picks up case management responsibilities (p. 115).

Each system may have its own referral sources, labeling procedures and diagnostic and treatment plans. The difficulty of qualifying for services in another service system often results in increasing levels of dysfunction on the part of the adolescent and the family. The adolescent may accelerate to increasing levels of lawlessness and be deemed unmanageable in the school setting or judged harmful to himself or to others before care can be obtained. Parents may be forced to relinquish custodial rights. Ultimately, the adolescent may be removed from the family and community and placed in residential care. Out-of-state placements for such cases average 13 out of 100,000 children nationally. Of those so placed, less than half of the clients had inter-state reviews, as no gatekeeping mechanism existed to do so (National Mental Health Association, 1989). There is no guarantee of follow up or of an on-going mental health service plan after such placement. By the time of placement, literally dozens of agencies and providers may have attempted to meet the individual's needs.

Further confusing the issue of coordination between systems, mental health practitioners are also found in systems other than mental health. For example, clinical psychologists work in school systems, clinical social workers are employed by child welfare and substance abuse agencies, and psychiatrists regularly testify in juvenile justice proceedings. The provision of mental health services within another service delivery system, (often viewed as more effective care) may also be specified as integrated care, rather than just coordinated care.

Mental Health/Health Systems

Adolescents are seen in the general health system by pediatricians, primary care physicians, psychiatrists, emergency rooms, community health centers (CHCs) and others. In a recent

DRAFT

study supported by the US DHHS, PHS Bureau of Maternal and Child Health, mental disorders, including mental retardation, were identified as the leading cause of disability (32 percent) among adolescents using health services (Newacheck and McManus, in press). Accidents, drug-related incidents, suicide, teenage child-birth as well as more routine medical conditions bring them into health services, but as indicated above, they frequently have mental health illness as well. The mental health needs of patients are frequently not recognized or treated in the primary care system (Burns, Taube, Regier, 1984). Fewer than one-third of adolescents with suicide ideation, conduct disorder or substance abuse or dependency who were seen in seven primary health clinics sought or received care for those problems (Stiffman, Earls, Robins, Jung, 1989). However, specially trained and funded, multi-disciplinary staffs were more able to detect these disorders and to treat these youths (Earls, Robins, Stiffman, Powell, 1989).

The development of special ways to coordinate care are required to improve this situation. Notable exceptions were reported in those Community health centers (CHCs) with a mental health component (Burns and Regier, 1980). In this type of setting multiple opportunities can be created to coordinate care where a full range of services are available within a single agency and inter-disciplinary education occurs around a team approach. Chart 3 identifies a number of ways to achieve coordination between health and mental health services (however,

DRAFT

CHART 3. HEALTH/MENTAL HEALTH COORDINATION IN A NEIGHBORHOOD HEALTH CENTER

Vehicles for Health/Mental Coordination	Examples of Application
1. Single Medical Record	Formal communication among all providers
2. Multi-discipline health care team	Multi-problem families with health and mental health problems presented to health and mental health providers
3. Ease of referral to mental health services	Open intake system by mental health service
4. Case-centered consultation	Health provider requests advice on management of patients
5. Inservice education	Series on alcoholism, child development, infant-parent relationship
6. Joint patient interview	Mental health providers model assessment approaches for health providers
7. Collaborative program	Pre-school screening, obesity group, medication clinic
8. Client-centered	Pediatric nurses counseling adolescent mothers meet with pychiatrist regularly
9. Liaison to units	A pediatrician attends the child mental health intake meeting
10. Collaborative research	A study of pediatricians patterns for prescribing stimulant medications

Source: Adapted from Burns and Regier, 1980 the reader should note that the example is unusual. Not only are mental health needs addressed in this type of model CHC, but community, family and inter-agency linkages are likely to be present. Although evidence suggests that linkages between CHCs and community mental health centers (CMHCs) could provide a vehicle for improving care for the adolescent mentally ill population, neither funding nor legislation in this direction are immediately forthcoming. An earlier federal effort to coordinate care between community mental health centers and community health centers was prematurely terminated in 1980 because of new Federal policies (see Goldman, Burns, Burke, 1980).

Mental Health/Juvenile Justice Systems

The mental health system for adolescents frequently interacts with the juvenile justice system around legal issues. Not only do the courts call upon the expertise of mental health practitioners for diagnosis and evaluations, they also place adolescents in various levels of mental health treatment providing they have been found guilty of a crime. Those found to be innocent, even those in need of mental health services, receive no treatment plan from the court (Lourie, Isaacs, 1988).

The provision of mental health services by the juvenile justice system, although not systematically studied, is thought to be limited in spite of the fact that the prevalence of mental health illness is high among their adolescent clients. A number of these youth are transferred to residential treatment centers (NMHA, 1989) or state hospitals. Such placements may not be psychologically appropriate or necessary but may be viewed as preferable to incarceration, lacking other alternatives for treatment.

Interaction between the court and the mental health system is often fragmented and time-limited, rather than developmentally oriented to a continuum of care. Change has begun to emerge from litigation, as in the Willie M. et al vs. James B. Hunt, Jr. lawsuit, which claimed that four minors had been denied rightful education and appropriate treatment. This class of Willie M. children was defined as "likely to be institutionalized." In settling the case, the State of North Carolina agreed to provide appropriate treatment and education for this class of adolescents (Behar, 1988). Recent innovations in adjudication and treatment management hold much promise in this area.

Mental Health/Child Welfare Systems

The child welfare system focuses on protection of the child. Adolescents tend to enter the child welfare system around issues like low family income or need for assistance due to abuse or neglect. Many are at high risk for mental illness and many need treatment. The adolescent may be placed in a foster home or shelter where his or her mental health needs may be noted and referral made to a local mental health agency, if the welfare worker has confidence in the agency and has time to follow through. Placement in therapeutic foster care settings (under the auspices of either the welfare or mental health system) may follow. Obtaining adequate mental health

DRAFT

treatment is frequently a legal issue. States vary in their interpretation of PL 96-272, the Adoption Law and Child Welfare Act of 1980, and may require that parents lose or relinquish custody in order to obtain mental health treatment for their adolescent child. Following loss of custody, subsequent steps often involve removal from the home and community and placement in a RTC. The coordination issue here is often related to a lack of community resources. In areas where services like crisis-intervention, day-treatment and family preservation services are available, greater cooperation between child welfare agencies and mental health are occurring as well (See Knitzer, 1989a).

Mental Health/Public School Systems

The Federal Education for All Handicapped Children Act (EAHCA) PL 94-142 has provided the potential for stronger linkages between the public schools and the mental health sector. Adolescents are observed over long periods of time within school systems, allowing substantial opportunity for detection of mental health problems. The EAHCA requires that free and appropriate education be provided in the least restrictive setting for all children. It further requires that States provide "related services" necessary for students to benefit from education. While the focus is on education, the ancillary services such as mental health treatment to support a learning environment are mandated. The National Mental Health and Special Education Coalition is pressing the Congress for new legislation and funding of the EAHCA reauthorization. Further, a recent federal

DRAFT

law, PL 100-360, has made Medicaid available to cover the costs of education-related services to low-income, handicapped students, (UPDATE, 1989) and this coverage is being used extensively for treatment in residential treatment centers.

PL 94-142 requires a team approach to the development of appropriate individual education plans (IEP). As mandated by the regulations, the team should include various parties including parents, teachers and other experts. Frequently mental health practitioners are included to diagnose, evaluate and give treatment recommendations. Yearly educational objectives are developed for the adolescent in terms of specific goals, and interventions are specified. If mental health services are deemed necessary for the student's educational progress, they must be provided. The "team" represents the system and manages the case.

In the early years, significant increases were seen in innovative special education services within the schools and in the provision of contained classrooms for the emotionally disturbed. In some school systems, mental health professionals were hired for diagnosis and treatment, while in others, mental health treatment was provided through agreements with local mental health agencies. Only in unusual circumstances was the child referred to residential treatment, or an out-of-state service.

Recent research indicates that there are serious limits to mental health services within the schools now. As reported:

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> there is one school psychologist per 2,633 pupils and typically school psychologists devote only five to nine percent of their time in direct counseling or therapy (Tremper, in press).

Only 19 percent of students with serious emotional disturbance are currently being served under PL 94-142, according to Dr. Steven R. Forness in testimony before the Senate Subcommittee on the Handicapped (UPDATE, 1989). Knitzer further states that "the schools are identifying a little more than 10 percent of the most seriously troubled populations" (1989b, p.4).

Some States have determined that mental health services do not have to be provided when they do not directly relate to educational objectives. Conversely some school systems have not only expanded their mental health services, but their health services as well. Evaluation data show high levels of utilization of and relatively low cost for school based health services (Millstein, 1989). Such services could combine mental health services as well. Overall the school system would seem to be a primary vehicle for well-coordinated identification, prevention and treatment of adolescents.

Summary

In summary, there is overlap and sometimes coordination, collaboration and/or integration between the mental health system and other systems of care. Consensus often exists among agencies and providers about optimum treatment for the individual adolescent. Various jurisdictions and systems have a common

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purpose in promoting the welfare of the adolescent and multiple agencies may provide funding and treatment for an individual.

What then are the barriers to greater coordination and integration of services?

- Multiplicity of entry points and jurisdictions.
- Length of time necessary to establish coordination of services and effect interagency linkages, trust and communication.
- Long-term needs of population to be served. As adolescents develop through the eight year span, service needs change and are likely to be met by different agencies, creating a lack of continuity.
- A lack of programs specifically designed for adolescents in mental health centers, health centers and hospitals.
- Inadequacy of research--especially outcome studies to determine optimum treatment protocols.
- Lack of mechanisms for coordination at local, state and federal levels.
- No clear legislative mandate to provide mental health services.
- Isolation of providers and lack of information as to how to acquire service and funding.
- Systems viewing themselves as having different missions and responsibilities.

- "Reverse optimum continuum". Only the "worst," "most ill" or "most abused", or "poor" receive care through legislation other than PL 94-142.

In contrast, what facilitates coordination?

- Federal legislation and funding.
- State direction and formation of child mental health positions at upper levels to address needs.
- Mechanisms to bring representatives from different systems together both formally and informally at the state and local levels (e.g., CASSP initiatives).
- Case conferences--including all parties concerned with the welfare of the individual.
- Opportunities to "broker" services across systems, such as the Alaska Youth Initiative (described subsequently in the Innovations section).
- Targeted training workshops--all levels of staff as well as local, state and national agencies.
- "Clearing House" or referral services.
- Flexible funding mechanisms and fiscal incentives.
- Effective citizen advocacy.

As demonstrated throughout this section, there has yet to be a universally accepted model for coordinating/integrating adolescent mental health services with other systems of care. The range of services required by adolescents needing mental health treatment is very broad (health, education, legal, social welfare). Some States and programs have achieved coordinated and even integrated service systems, but for the most part each adolescent requiring services must be dealt with on an individual basis, frequently by multiple agencies and individuals.

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INNOVATIONS IN SERVICE DELIVERY

Innovations in service delivery are described on two levels. Recently developed community based services, including crisis services, case management, therapeutic foster care and group homes, are described with studies documenting effectiveness. On a systems level, selected model programs which demonstrate different strategies for organizing comprehensive services are presented. Many of these developments have the potential to reshape the service system.

Community-Based Services

Crisis Services

Crisis intervention services, particularly home-based (family-based) treatment programs, represent some of the most recently developed service innovations for children and adolescents. The population served by crisis programs is largely adolescent -- a period of life when depression and hostility can reach extremes, and when problems in the family, school and the community can exacerbate these tensions (Goldman, 1988). There is no information about the availability of these services across the country but the expectation is that there is a major need for such services based on increasing rates of institutional (hospital and residential) placements of adolescents.

Crisis services for adolescents with mental disorders are an important part of the mental health system network. These services include evaluation and assessment, crisis intervention

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and stabilization, and follow-up planning. Adolescents who are prone to acute episodes of mental illness and require specialized intensive services are treated, as well as those who are fundamentally well functioning, but who experience an acute crisis. Crisis services focus on the issues that caused the crisis and use the intensity of that crisis as the basis of treatment (Goldman,1988). Once the crisis is stabilized, both the adolescent and family can be referred for further treatment. These services represent a crucial part of the adolescent mental health system because many adolescents enter the service system at a point of crisis. Unless crises are effectively dealt with, the patient is likely to progress further into the service system. For some adolescents, crisis intervention will provide sufficient care, for others needing long term care, crisis intervention can open the door.

Many types of services and personnel respond to crises. Telephone crisis hotlines offer a response for adolescents who are feeling confused, overwhelmed, hurt or depressed. The telephone numbers are well publicized and crisis lines usually operate 24-hours a day. Emergency room services, which are accessible 24-hours a day, 7 days a week, are a critical part of the system of care. In a study of one hospital emergency room, adolescents presented largely with diagnoses of adjustment and conduct disorder; for 40%, self-destructive ideation or behavior was present (Hilliard, Slomowitz and Levi, 1987). Other types of crisis services include: mobile crisis outreach services

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(including home-based services and emergency medical teams), walk-in crisis intervention services, runaway shelters, and crisis group homes. No outcome research on hotlines, emergency rooms, shelters, or crisis group homes was found.

Some emergency services focus on crisis prevention and education to teach adolescents how to handle crises and to inform them about available services. Other programs offer training for teachers, parents, police, and staff of juvenile detention centers and shelters, to help them identify adolescents in crisis, and to advise them about community resources for this population.

The goals of crisis treatment, as described by Goldman (1988) include: to intervene immediately, to provide brief and intensive treatment, to focus treatment on problem solving and goal setting, to involve families in treatment, and to link clients and families with other community support services. Another major goal is to avert hospitalization and to stabilize the crisis situation in the most normal setting for the adolescent. Crisis intervention has proven to be an effective gatekeeper to hospitalization, as well as being a cost effective alternative to hospitalization (see Goldman, 1988).

Services are provided on a short-term basis (usually 10 sessions over a 4 to 6 week period) and are available 24 hours a day, 7 days a week. At the outset of the crisis, intervening staff may meet more frequently with the clients in longer sessions. Programs tend to be small, encouraging a close relationship between staff, adolescent and family. The family is involved in all aspects of crisis treatment. There is a similar treatment model across crisis programs, with an initial evaluation and assessment by staff, focus on the development of problem solving and coping skills, and the introduction of adolescent and family to community services.

Crisis staff put a particularly high level of energy into their work, probably more than the usual outpatient child mental health staff who work in a clinic setting. They must be flexible in order to meet the needs of family schedules, as well as adaptable enough to "switch gears" between families from different social and ethnic groups. It is crucial for staff to be able to set boundaries and limits for themselves when working with the families. The staff must have the ability to quickly develop relationships with clients but to maintain enough detachment to let go of the relationship when the case is closed. Staff are required to have skill and experience in the areas of assessment, emergency treatment and family work.

Limited information exists on program costs. Crisis care clearly costs much less than the alternatives (a hospital or RTC admission). Cost data as available are provided subsequently with specific program descriptions.

There are barriers to the provision of effective crisis care. Some of these include financing crisis services, staff recruitment, staff burnout, provision of adequate case management, lack of available follow-up resources and services, lack of coordination across service systems, finding the proper areas to establish crisis programs, and the overload of existing crisis services due to the increasing number of troubled adolescents who need crisis services (Goldman, 1988).

Home-Based Services

The only type of crisis service which has been subjected to any systematic evaluation is home-based services. Basic principles and methods of providing these services are described. This is followed by results of early evaluations of this type of crisis service.

The goal of home-based services (family-based) is to preserve the family as a system. Crisis intervention is provided within the home of the disturbed adolescent and his/her family on an outreach basis. The three primary goals of home-based services (as described by Stroul, 1988) are: 1) to preserve the family's integrity and to prevent unnecessary out-of-home placements; 2) to introduce and connect adolescents and their families to community agencies and individuals in order to create an outside support system; and 3) to strengthen the family's coping skills and their capacity to function effectively in the community after crisis treatment is over. Only adolescents at high risk of placement (e.g. perceived as dangerous to self or others) are accepted for home-based services.

Home-based services are provided by both public and private agencies. Intervention occurs in the family's home with the

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focus on the family. The entire family is viewed as the client. Service delivery hours are flexible in order to meet the needs of the families; 24-hour intervention is available. Services provided are multifaceted, including evaluation, assessment, counseling, skills training, and coordination of services. These programs work with the community system to place the adolescent and family in the continuum of care where they need services.

The relationship developed between the home-based program worker and the family is close, intense and personal. This type of crisis intervention is designed to encourage hope in families and to aid them in setting and achieving their own goals for recovery.

Program staff carry caseloads ranging from 2 to 4 families, and the length of intervention is typically between 2 to [illegible] months. Small caseloads are essential to provide immediate and intensive service. This has been called an inefficient and extravagant use of resources by some, but if this special attention can avoid out-of-home placement in even half of the families served, then financial savings far exceed the cost of the intervention.

Treatment is often provided by a team of at least 3 professionals. Generally, a primary counselor is assigned to the case, with back-up counselors/staff enabling 24-hour coverage and creating a staff support system. There is wide variation in the cost of home-based services, due to differences in the intensity

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and nature of services, duration of the programs, and differences in staffing patterns. The estimated cost of a three person program (including secretarial and administrative expenses) ranges from $120,000 to $160,000 per year (Stroul, 1988). In some parts of the country crisis teams may not be as well staffed or financed as in the above description.

Early demonstrations, starting with the Homebuilders Program in Tacoma, Washington (Kinney, Madsen, Fleming and Haapala, 1977), the Systemic Crisis Intervention Program (SCIP) in Houston, and others in San Diego, California, Hennepin County, Minnesota, and Maine report encouraging results: 75-90% of the children and adolescents in such programs do not require placement outside of the home; verbal and physical aggression decreased; and significant fiscal savings occurred (Gutstein and Rudd, 1987; Hinckley and Ellis, 1985). As evaluation of such programs develop further, assessment of other types of outcomes are envisaged (e.g. changes in other types of symptoms or behaviors, changes in the quality of family relationships).

Two studies of the Homebuilders Program were done to discriminate factors that differentiate successful cases from "unsuccessful" cases (where adolescents are placed out-of-home). In 1984, Haapala used a critical incident and structured interview method with families who received Homebuilders' services. The more the therapist was perceived as doing something tangible for the child and family, the more likely that the child would remain at home. This result magnifies the

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necessity to attend to all aspects of need within the family, not just mental health.

The University of Utah School of Social Work and the Homebuilders's program are completing a study of home-based services to identify what constitutes a "failure" of the services in Washington and Utah. Children and adolescents who remained in placements outside of the home--including hospitalization, group, foster and residential settings--for two weeks or longer were seen as having failed. Data were collected on over 450 adolescents and their families who received home-based services. Interviews were conducted with the family, the home-based worker, and the caseworker (when an out-of-home placement occurred) in order to understand the cause of placement. Significant changes in family functioning, such as learning and using new parenting skills, were found in families that experienced successful treatment (Goldman, 1988).

In an evaluation of the Houston Child Guidance Center's program called Systemic Crisis Intervention Program (SCIP), 75 youths were followed over a one and one-half year period. Suicidal behavior was the cause for treatment in 47 of the subjects at intake; 26 of these had suicidal ideation, and 21 had actually attempted suicide. No suicide attempts were made during treatment. Of those followed after treatment, there was a significant decrease in the range of problem behaviors, only five out of 75 youths were hospitalized or in residential placement at follow-up. Two made minor suicide attempts during the follow-up

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period. The mean per patient cost of SCIP was $3,200 per episode of care. Other findings include: a clear decrease in severe behavior as reported by the parents, no occurrences of new crisis behavior, and regular school or work attendance (Gutstein and Rudd, 1987).

The preceding studies consist of program evaluations, and more are needed. The results from home-based programs are impressive, but the methodological shortcomings that exist in most of the evaluation research must not be overlooked when drawing conclusions. Many programs do not assess whether families continue to remain intact after home-based services have been withdrawn. If the goal of home-based studies is to prevent placement, then it is essential for the researchers to examine not only the short-term results of intervention, but also to conduct longitudinal follow-up studies. Evaluations have not included control families with comparable characteristics and problems for whom home-based services were not provided (Tavantzis, 1986). Without such studies it is not possible to predict whether comparable adolescents would have entered or avoided out-of-home placement without the intervention.

Despite the preceding cautions, the early evidence indicates that home-based programs, in their short history, have demonstrated that many children who would have been removed from their families can best be served in their homes (Friedman and Street, 1985). If a community is committed to a family-oriented system of care that emphasizes treatment in the least restrictive

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setting possible, then in-home services should be tried before out-of-home placements, unless an individual is in immediate danger (Auclaire and Schwartz, 1986). When intensive services are provided during a time of crisis they may contribute to lasting improvements in family functioning, and these services may be cost-effective in relation to residential placements (Update, 1985).

Therapeutic Foster Care

Therapeutic foster care is a relatively new and specialized form of residential treatment for adolescents with mental disorders who cannot be managed in their own homes. Therapeutic foster care can be defined as a service which provides treatment for troubled children within the private homes of trained families. The approach combines the normalizing influence of family-based care with specialized treatment interventions, thereby creating a therapeutic environment in the context of a nurturant family home (Stroul, 1989). It is the least restrictive of all residential placements and is capable of providing individualized, intensive therapy even for adolescents with severe disorders as an alternative to highly supervised institutional settings.

Currently the majority of therapeutic foster care programs are developed, operated and administered by private, non-profit agencies. Recent surveys indicate that fewer than 25% are operated by public agencies (Snodgrass and Bryant, 1989; Stroul,

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1989). Private sector agencies are able to reduce the caseload of the overburdened public sector (Snodgrass and Bryant, 1989).

The flexibility of therapeutic foster care programs offers an opportunity to match adolescents to specific social and cultural backgrounds and to design individual treatment programs. Within the same program children and adolescents of all ages and both sexes with a variety of diagnoses can be served. The programs are easy and comparatively inexpensive to start. No special physical facility is required, therefore there are no zoning problems when establishing a new program. The ability to begin small, to establish the staff and the program (to find and train therapeutic foster parents) enables therapeutic foster care programs to decide what size they ultimately want to achieve and to expand or contract as needed. All therapeutic foster care programs have a low staff to client ratio, allowing the clinical staff to work closely with each adolescent, with the therapeutic foster parents, and, if they are willing and available, with the biological parents. Linkages with schools and other agencies are effected.

The estimated cost of therapeutic foster care ranges from $10,000 to $20,000 per adolescent each year (Stroul and Friedman, 1986). Included in this cost are payments to staff and therapeutic foster parents. A portion of the cost of these programs may be provided by funds for regular foster care in the state. Programs are typically jointly funded by child welfare

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and mental health agencies and costs are lower than for other residential settings (Stroul, 1989).

Discharge data have been used most frequently to evaluate the effectiveness of therapeutic foster care. It has been assumed that placement in less restrictive settings is a major goal of treatment. Such settings would include the adolescent's home or a relative's home, regular foster care, adoptive homes and independent living. Snodgrass and Bryant (1989) report that an average of 77 percent of children are discharged to less restrictive settings.

The Presley Ridge Youth Development Extension (PRYDE) in Pittsburgh collects annual follow-up surveys on discharged clients. Seventy percent are still living in a less restrictive setting than therapeutic foster care at one and two years after discharge and over 70 percent are attending school or are working. When change in functioning is measured over time, "targeted behaviors" are reported to have improved in more than 75% of discharges from the People Places program, (Jones, 1989). Signficant progress on behavioral objectives was made by 60 percent of youth discharged from Florida's programs, according to Friedman (1983).

An Ontario study (Rubenstein, Armentrout, Levin et al., 1978) compared foster placement in the Parent Therapist program to care in a residential treatment center. Although clients were not randomly assigned, this is a controlled study using comparison groups. The groups were roughly comparable in

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background and they made similar improvement. The significant difference was that the foster care arrangement cost only one-half as much as the residential treatment for the same period of time.

The major constraint in developing therapeutic foster care programs has not been lack of enthusiasm about the effectiveness of this type of service, but one of recruiting and training qualified foster parents (Butler,1988). Recruiting parents to work with adolescents is more difficult than recruiting parents to work with younger children. As Friedman (1983) suggests, this service is effective with a large percentage of children and adolescents, and is sufficiently inexpensive to become an important service component within the mental health system of care.

Therapeutic Group Homes

The therapeutic group home provides emotionally and behaviorally disturbed adolescents with an environment in which to learn social and psychological skills. This service is provided in homes located in the community Each home typically serves 5 to 10 clients, and provides an array of therapeutic interventions. Types of treatment vary among programs; individual psychotherapy, group therapy, and behavior modification are usually combined with family therapy.

Therapeutic group homes differ from regular group homes. The primary objective of a group home is to provide a safe, supportive environment for dependent or troubled youth who are unable to live at home, in contrast to offering therapeutic services.

Residential treatment centers differ from therapeutic group homes in a number of ways. RTCs serve a larger number of patients and are usually organized as a large facility. RTCs have a greater presence of medical staff (although not always on site, they are available 24 hours a day), and security in RTCs tends to be greater. The treatment in the therapeutic group home is derived more from a social work, or social-psychological origin (Stroul and Friedman, 1986).

Therapeutic group homes can be operated on a solo basis or run out of an organization which operates several group homes at different sites in the community. There are two major models of therapeutic group homes. The first is the teaching family model, developed at the University of Kansas, then moved to Boys Town in Omaha, Nebraska (Phillips, Phillips, Fixsen, & Wolf, 1974). The second is the Charlee model, developed at the Menninger Clinic. Both models utilize their staff as the key agents for change in the disturbed adolescents; selection and training of the staff are emphasized. Both models employ couples who live at the homes 24 hours a day, with some relief assistance available (other types of group homes have rotating staff). This variation in staffing, between permanent houseparents and rotating staff, is a

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major difference between types of therapeutic group homes. Variations also exist in the kinds of therapeutic approaches utilized. The teaching family model emphasizes structured behavioral interventions through teaching new skills and positively reinforcing improved behavior. Other types of group homes use individual psychotherapy and group interaction.

Vocational training and work experiences are included as part of the treatment program for adolescents. Recreation is integral to the adolescent's developmental needs. The programs designed to handle adolescents with more difficult problems allow more staff per adolescent, provide a structured environment and maintain a small number of clients in the home.

The cost of treatment varies among therapeutic group homes. Factors determining the cost of treatment include the intensity of the treatment program and the ratio of staff to adolescents. Individually run programs serving few adolescents cost from $100 to $150 per youth per day. Programs operated by agencies that oversee a number of homes can keep costs under $100 per day. Annual costs are in the vicinity of $36,000 to $54,000.

There is a shortage of research on the effectiveness of therapeutic group home programs that are targeted toward emotionally disturbed adolescents. Primarily, these homes have been developed for juvenile justice or social welfare populations and this research literature is covered more thoroughly in another chapter of this report. A recent dissertation (Roose, 1987), studied the outcomes of 20 adolescents treated in a group

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home. Adolescents with severe character pathology or major psychiatric disorders were not admitted. In this quasi-experimental design, 20 group home and 20 untreated adolescents served as controls. The follow-up period was 18 months, and the primary outcome was functioning, defined as improved relationships with parents and peers, and work. The other outcome was the adolescent's level of psychopathology. At follow-up, 90% of the treated group had fair or good functioning. Only 45% of the untreated group achieved similar ratings. The treated group realized a significant decrease in psychopathology, while the untreated group did not.

Existing research does suggest that therapeutic group home programs produce positive gains in adolescents served while they are in the home. Unfortunately, the limited research available shows that these changes are seldom maintained after discharge. (Kirigin, Braukmann, Atwater & Wolfe, 1982). The implication here may be similar to RTC placement, that long term outcome is related to the extent of services and support after discharge. Adolescents with mental illness in therapeutic group homes frequently have histories of multiple prior placements (particularly foster homes), carrying with them a poor prognosis. Thus, future research would benefit from assessing alternative strategies for treatment after discharge from the group home.

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Model Systems

Three model systems of care which provide comprehensive services were identified and presented because of the differences in their approach to organizing services. However, the three models share the same basic goals and philosophies, which are described below. The following objectives are shared by the Ventura County Project, the Alaska Youth Initiative, and Kaleidoscope:

- To care for children and adolescents who have been separated, or are at risk of separation from their home and family, due to hospitalization or placement in residential care;
- To maintain and to preserve the family as a functioning unit;
- To treat the adolescent in his or her home and community;
- To maintain personal freedom, responsibility, and participation in normal community socialization (remain in school, interact with peers);
- To provide individualized treatment, tailoring the program to meet the specific needs of the adolescent;
- To make services--clinical and therapeutic--available 24-hours a day;
- To aid in developing self-sufficiency in the adolescent and family, teaching them the skills to use and obtain

any further aftercare or outpatient services needed, and to live independent and productive lives.

Ventura County Project

The Ventura County, California comprehensive service model was developed in 1985. Ventura County is identified as the "satellite model", meaning that an umbrella of public sector organizations provide mental health services to the adolescent with mental disorders in settings where they are located in the community. The public sector (the State of California) is responsibile for these youths and was concerned about the potential for such youth to become dysfunctional and costly adults.

Collaboration between service providers allows all available public and private agencies to combine resources in order to strengthen the families' ability to manage and to care for adolescents with mental disorders. Agencies involved include mental health, social services, juvenile justice, and special education. Services, staff and funding are blended together across agencies in order to reach the treatment goals for this special population (defined as children and adolescents with serious emotional disturbance who had been removed from their homes or who were at risk of being removed). Case management is provided to assure that the clients receive individual, appropriate, and easily accessible treatment at a low cost. The outcome and cost of treatment are routinely monitored and reported to State and county jurisdictions (the agencies providing the funding). Client outcome is individually monitored for as long as the client receives mental health care, to determine whether the treatment preserves families and reduces costs. The data are analyzed and used for program improvement.

Results of the Ventura County Project include decreased rates at which children are separated from their family and placed outside of their home; for those who are placed, the Project enables them to return to their home and school faster than before the Project. Short-term reductions in recoverable state general fund expenditures have offset costs by more than 50 percent. The Ventura model will enable California to save almost $17 million a year in state hospital costs. Since 1985, out-of-county, court-ordered juvenile justice and social services placements have been reduced by 46 percent (from 89 to 48 children) in Ventura County (Dowrick, 1989).

The Ventura County Project, between 1985 and 1987, has demonstrated many advantages to the child or adolescent served, to their family, and to the taxpayer. Treatment in the Ventura County Project programs reduced the rate of repeated admissions and repeated juvenile offenses--this is expected to reduce future needs for additional juvenile detention facilities and, eventually, adult prisons. Future plans include increasing client services in the community, and further reduction of institutional costs.

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Alaska Youth Initiative

The Alaska Youth Initiative (AYI) provides highly individualized mental health services program to Alaskan youth. The Initiative was created by the state government to return youths placed out-of-state to the State, and to limit out-of-state placements of youth between the ages of 7 and 20 years of age. AYI is called a "wrap-around" service system. The dollars available to buy services are allocated to the community by the State government. The service package is developed by the adolescent's case manager and is purchased from vendors. Both the funds and the services are "wrapped around" the adolescent, providing the most individualized treatment and education possible. The essential concepts are flexible funding and flexible service delivery. When a service for a given child or adolescent is not available from an existing organization, funds are used to develop the service. For example, instead of bringing a schizophrenic adolescent from a remote village into Anchorage for treatment in a hospital, a mental health consultant was flown to the village to work with the school and family to set up a program for this boy (Dowrick, 1989).

State departments, school districts, and community human services organizations work together to prevent placement of an adolescent in an institution or out-of-state, unless this is absolutely necessary. The goal is to develop culturally appropriate in-state programs that will meet the needs of Alaska's most disturbed youth.

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An interdepartmental team (IDT), consisting of staff in the Department of Education, Division of Mental Health and Developmental Disabilities, and the Division of Family and Youth Services, manages the AYI and evaluates the strengths and gaps in the continuum of services in the communities. Reporting to the IDT is a Coordinator and an Assistant Coordinator. Regional Coordinators, located in Juneau, Anchorage, and Fairbanks, organize the local treatment and education teams that devise the individualized service plans for each youth. The average number of agencies which comprise an individual treatment team is 4.3. From three to seven agencies at a time are involved with one case.

Children and adolescents (7-20 years of age) from all over the state are served. The average client age is 15.8 years. Among those served, about half are male. The majority (56 percent) are Caucasian, 31 percent Alaskan Native, 7 percent black, and 4 percent Southeast Asian or Hispanic. Primary diagnoses of the children and adolescents served include psychosis and schizophrenia, behavior disorders, borderline personality disorders, major depressive disorder, bi-polar disorder and substance abuse. The most prominent area of functional impairment is in social relationships--91 percent of the youths served in AYI need help in establishing satisfactory relationships with peers and adults. Sixty-seven percent of the youth in the AYI program have had substance abuse problems. Fifty-one percent of AYI clients have been legally confirmed as

DRAFT

being victims of sexual, emotional or physical abuse. Over half of the youth served are under custody of the Department of Health and Social Services.

The per child average yearly cost is reported to be $40,562. Costs for prior care for this population in residential treatment centers would have been closer to $50,00-$75,000 per year. This amount includes direct service and State education costs as well as service administration costs. Second year costs are estimated to be 24 percent less than first year costs. The average length of AYI participation is 11.8 months.

Initial outcomes (as of January, 1989) from the first and second years of AYI are encouraging. Forty-nine AYI youth were diverted from out-of-state placements, and were returned to Alaska. Two of these youth subsequently required out-of-state placement, one short-term. The amount of time spent with natural families or in family-like care, as opposed to institutional care, increased dramatically- (i.e. full-time due to failure to place in institutional settings).

The following decreases occurred within the first two years for the treated AYI adolescents: alcohol and drug use for the adolescents with substance abuse problems, the incidence of runaway episodes (decreased by over 75 percent). Assaultive behavior, property damage, contacts with police, and suicide attempts have been almost eliminated. Compliance with taking voluntary medication has increased along with school attendance and parental involvement with the youths.

DRAFT

The AYI approach, with services individually tailored, is appropriate for isolated or sparsely populated rural areas, as opposed to the group approaches utilized in areas with larger population bases (i.e. partial hospitalization, group homes). There are plans to systematically produce long term client outcome data on each severely emotionally disturbed child and adolescent being served by the Alaska Youth Initiative. Further, this model has been extended to other states (Washington, Montana and Wyoming) where client outcomes are also being monitored.

Kaleidoscope-Chicago

The Kaleidoscope Program of Chicago represents a private umbrella organization, providing a continuum of services within one operation for a select population--adolescents with diagnosable mental disorder and members of their families. The underlying philosophy of treatment at Kaleidoscope is normalization and unconditional care. Adolescents are treated in a normal environment so that they may learn from their surroundings. Clients are treated unconditionally, even if they have been rejected from other types of treatment organizations, which is often the case. All adolescents referred to the program are accepted provided there is an opening (Stroul, 1988).

The agency is supported by multiple grants and contracts. Support comes from the Cook County Region of the Illinois Department of Children and Family Services (DCFS), other regions of the DCFS, and by the Joint Services Children's Initiative of

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the Department of Mental Health. Outside funds are contributed from the private sector and from fund raising.

The regular care givers--parents, child care workers, or foster parents--are the key resources for treatment. They provide around the clock care and are in charge of the client's treatment plans. Mental health professionals are available for specialized treatment and consultation.

Three basic program models are provided by Kaleidoscope. These include: 1) therapeutic foster family home placements where professional foster parents provide full-time care to troubled youth in their home (serving almost 50 youth daily); 2) the youth development program which places and supervises older adolescents in apartments in the community and helps them live on their own (about 45 adolescents placed); and, 3) satellite family outreach, reuniting adolescents placed in residential treatment with their families and preventing the unnecessary removal of adolescents from their families.

The staff provide child care, diagnostic assessments and a wide range of therapeutic services to clients. About 70 staff and 45 professional foster parents are employed. All staff have at least a Bachelor's degree, and about 20 have Master's degrees.

The home-based services cost approximately $1,200 per month. The average 18 month episode costs $21,600 (Stroul, 1988). Kaleidoscope has not yet formally evaluated the program's effectiveness, but has estimated that at least 50 percent of adolescents referred for services are maintained outside of the

DRAFT

residential placement system for a minimum of 18 months. At least 50 percent of the families of referred clients terminated from the program requiring fewer intensive services at follow-up. Overall, Kaleideoscope has been successful in two-thirds of adolescents treated (Stroul, 1988).

Summary

These three model programs represent innovative approaches to comprehensive care with different organizational prototypes and funding methods. Ventura County's model, identified as a satellite model, links multiple public programs to serve a large client population. The key to this model is the direct provision of mental health services in agencies where the young person is most often located, whether this is a school, the juvenile justice system, or a social welfare program. Dispersion of mental health services away from a central location has generally been perceived as risky for the mental health system. However, the advantages associated with improved access to clients clearly outweigh territorial concerns about maintaining an autonomous service which does not reach the population needing care. The Alaska Youth Initiative, identified as the "wrap around" model, is, in contrast, a publically administered but privately contracted program, designed for youth who are spread out geographically with very limited access to any mental health services. The notion of designing services and purchasing care on an individual basis is quite different from Kaleidoscope, a

DRAFT

single, private agency, which serves an inner city population and offers comprehensive community based services within its organizational framework, (supported by public and private funds).

All three programs are designed to serve adolescent populations in more effective ways than they were served previously, and, at the same time, to reduce the cost per client. Over time it will be important to assess client outcomes and cost effectiveness of each model. Evaluations for all three programs are being conducted by the Florida Research and Training Center for Children's Mental Health. An extension of the Ventura County model into three California counties is also being studied by the University of California, San Francisco.

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SUMMARY AND RECOMMENDATIONS

This section summarizes themes in the report relevant to two types of recommendations- policy and research. Each of the two sections briefly reviews recent developments and problems in the provision of mental health services to adolescents and then proceeds to suggest steps which could be taken to begin to respond to the identified problems.

Policy

To begin to correct the problems of mental health service delivery ranging from the availability and effectiveness of services, to quality of care, access and coordination, attention is required at federal, state and local levels, across systems of care which serve adolescents, and by the professional organizations concerned with this population. Prior efforts (since 1909) to improve mental health services for children and adolescents at a national and federal level were reviewed by U.S. Congress, OTA, (1986). Early recommendations were quite general (e.g. develop new programs); over time they progressed toward greater sophistication and specificity (e.g. coordinate greater services across systems). The most recent set of such recommendations is a mix of general and quite specific objectives, combining earlier ones as well as adding new ones. This set, which comes out of several years of intensive study by The National Mental Health Association (1989) focuses on the public sector.

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As a basis for new policy, a number of gains in the mental health service system for adolescents in recent years provide a foundation for future policy changes. Briefly summarized, they include:

- A child and adolescent mental health presence has been established in almost every state, a result of the NIMH Child and Adolescent Service System Program, along with a growing awareness among legislators, service planners and service providers of their mental health needs and clearer approaches to address them.
- The development of model service systems in selected parts of the country (e.g. Ventura County, California, Kaleidoscope in Chicago, the Alaska Youth Initiative, Willie M. in North Carolina) which demonstrate that community-based, multi-system, joint-private-private-public sector efforts are feasible and are showing signs of effectiveness.
- Recently planned demonstrations of child and adolescent mental health system innovations (e.g. The Robert Wood Johnson Child Program and Fort Bragg) will further elucidate the principles and practices essential to the provision of quality mental health care in the community.
- A growing, though incomplete, research base on the range of mental health service components is encouraging about the potential effectiveness of the range of mental health services for adolescents.

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- An across-the-board increase in use of mental health services found in national data which examined utilization patterns in 1975, 1980 and 1986. These increases were greatest in the use of outpatient services such as psychotherapy and partial hospitalization. Other non-residential services, like home-based crisis services and therapeutic foster care, are spreading but national data are not available to track this growth. Minority adolescents are beginning to obtain a greater share of mental health services.

However, a number of perplexing and persistent problems prevent this picture from being entirely positive:

- Despite increases in the availability and use of mental health services over the past decade, less than 2% of adolescents receive care from the mental health system in a year (this estimate would be somewhat higher if mental health services in schools, health care facilities and the juvenile justice and social welfare systems were included) in contrast to estimates of need for treatment of 5% to 12%, or more, for this neglected population.
- Use of institutional services (hospitals and residential treatment centers) has increased dramatically despite public policy directed toward using community based services. In fact, the dollars spent on institutional care are three times those spent on community-based mental health services, drastically limiting the number

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of youth who could benefit from services in the community.

- Failure to develop a comprehensive and effective mental health system in communities is related to many complex factors. Use of the mental health service system is seriously restricted by very limited insurance benefits and the funds for more extensive and expensive treatment are located essentially outside of the mental health system in the education, social service, juvenile justice and health care sectors. Relationships between these systems and mental health are at best tenuous. An inability to break organizational barriers results in expenditure of funds in institutional settings (often out-of-state) which could be used to develop community care, if there were cooperation among agencies. Children and adolescents who need services from multiple agencies suffer as they are bounced from one to another, often preceded by a wait to meet eligibility requirements for services. Usually, this requires that the condition get worse before help can be obtained (e.g. the mentally ill adolescent who is in trouble with the law has to get into serious trouble before a judge orders an outpatient commitment which will finally pay for psychiatric care).
- Even when services are available, access issues still influence use of care, particularly those related to being uninsured, limited benefits for mental health

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services or restrictive Medicaid policies which vary by state. Despite increases in the rates of mental health service use by minority adolescents, access to the mental health system is restricted by insurance coverage and other factors resulting in the provision of care from other systems, particularly juvenile justice.

- Despite the development of model systems which serve as examples, limited proliferation leaves many adolescents with the usual fragmented and uncoordinated care. The availability of outreach services in settings where adolescents are more likely to seek care (e.g. schools, community centers, health centers) is rare, especially for very high risk youth such as those who may be suicidal, who have co-morbid conditions like depression and substance abuse or those with mental illness and a chronic physical illness.
- Finally, shortages of mental health professionals with expertise in treating adolescents, especially with the newer treatment modalities, contribute critically to the limited availability of mental health services for this population.

The combination of developments and persistent problems in the mental health system lead naturally to a number of recommendations for change. Major recommendations are made in five areas: 1) local systems development; 2) financing options; 3) use of institutional care; 4) professional training; and 5) services for

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minority populations.

Local Systems Development

The first set of recommendations relates to insuring comprehensive systems change. Critical areas for re-orienting the service system were efficiently specified by Knitzer and Yelton (p. 14, 1989):

> (1) strengthening, systematically, the range of non-residential services that are available to children and adolescents and families across systems, (2) anchoring responsibility for individual children (and adolescents) through a cross-agency case-management system and (3) creating a new organizational framework to facilitate cross-system decision making and resource sharing.

To achieve the preceding recommendations, new resources are required to increase service capacity in local areas. Grants to build system capacity at the local level should facilitate development of a continuum of care across agencies (including 24 hour coverage) and should be located in those agencies which are most likely to serve adolescents. Funding should be flexible so that implementation of individualized service plans is feasible. Integrated, not just coordinated, services are required to engage adolescents in treatment, and a wide range of needs have to be addressed (i.e., education, vocational training, employment, health, mental health, social, housing and recreation). Such centers would provide outreach and treatment and need to be conceptualized as comprehensively as possible. In addition to providing treatment for adolescents who are mentally ill, the ability to reach out to adolescents who are suicidal, homeless, HIV positive and other risk groups is essential. Provision of

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treatment types such as home-based crisis services, day treatment and therapeutic foster care need to be given high priority. Support for such centers would require public and private sector resources, including industry.

Financing Options

In the area of financing policy, drastic changes are required to alter the current serious imbalance between expenditures for institionalized care and expenditures for community-based services. To a great extent those dollars are not controlled by the mental health system but are instead under the control of the third party insurers, including Medicaid, and other human service sectors: education, social welfare and juvenile justice. Institutional expenses need to be reduced before increased resources are likely to become available in the community (a problem observed when adult mental patients were de-institutionalized before community resources were in place). Thus, a stratagy for insuring a more orderly process than the one which occurred for adult patients in the 1960s and 1970s will require attention to a sequence of policy changes, involving immediate and then more long term changes.

For immediate change, some models exist which allow flexible funding. For example, in the Alaska Youth Initiative, the funds previously used for residential treatment center placements were used to develop community programs for the same youth. Insurance companies, like Prudential, are beginning to experiment with individualized treatment plans that are not limited to the usual outpatient benefit limits (e.g. medication and outpatient

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psychotherapy) when it becomes clear (on a case by case basis) that institutional care is going to be expensive. Medicaid allows states to apply for a waiver which enables use of funds for innovative community services (however, only Vermont has taken advantage of this option and this has not been evaluated).

In the longer term, more durable and well-delineated policies are required to finance mental health services in communities. In the public sector these involve: 1) sharing resources across agencies (e.g. social welfare could reimburse the mental health system for in-state or community care); 2) cross agency use of the Medicaid match; and 3) more creative and extensive use of the Medicaid Home and Community Care option which could substantially increase reimbursement for community-based services. Federal regulations may be required to correct the signficant inequities in mental health coverage by Medicaid across States, and extensive use of Medicaid dollars for treatment in residential treatment centers needs examination as a policy issue. Insurance companies will have to be convinced with cost effectiveness studies that the range of community interventions being advocated are both viable and effective. New financing mechanisms, generally identified as managed care or capitation, can offer innovative benefit packages and test the feasibility of managing them effectively and efficiently (two current examples are the CHAMPUS demonstrations in Norfolk and Fort Bragg, North Carolina).

Use of Institutional Care

The third major policy area, extensive use of institutional

DRAFT

care for adolescents (addressed partially above), requires careful attention by professional groups before it is 'de facto' resolved by policy makers. Hospitals and residential treatment centers provide an important component of care for severely disturbed adolescents, albeit on the extreme end of the continuum. This review calls for the development of explicit criteria for the most restrictive and expensive forms of treatment. Excessive use of state hospitals and residential treatment centers led the National Mental Health Associate to propose a number of recommendations directed at restricting this level of care.

Although somewhat duplicative of some of the prior policy recommendations, the NMHA recommendations are cited in summary form:

1. Create community-based services.
2. Develop a child-centered and family-focused system of services.
3. Adopt a children's Bill of Rights (to protect against inappropriate placements).
4. Plan to return children home (applies to children placed out of state).
5. Prohibit placements outside of the state's jurisdiction.
6. Prohibit treatment of children in adult wards of state hospitals.
7. Establish a gatekeeping system (i.e. local case review committees to prevent out-of-home placement unless there is no alternative).
8. Fully implement PL 94-142.
9. Improve state monitoring.
10. Provide case management from the child's perspective.
11. Expand advocacy.
12. Mandate interagency planning.
13. Permit flexible use of funds.
14. Improve or repeal interstate compacts.
15. Improve data collection (refers to improving data systems on services for children with emotional problems).
16. Conduct national study (a study to determine the status of children in private psychiatric facilities) (NMHA, 1989, pp. 10,11).

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Resolution of the issue of appropriate use of hospital and residential treatment centers for adolescents requires major public-private sector negotiation. Residential treatment centers, mostly private organizations, are reimbursed largely with public dollars. An alternative to residential care may be for RTCs to offer a broader range of mental health services to local populations in the areas where they are located. Private psychiatric hospitals, the largest recipient of dollars for inpatient adolescent care, tend not to serve the public (Medicaid) patient (despite use of public bond money for building facilities). However, these hospitals are more likely to offer comprehensive care than general hospitals and, in some communities, have more extensive resources to provide mental health services than the public mental health agencies. An area to explore is whether some of these well-established hospitals could be interested in providing comprehensive care for a broader socioeconomic range of adolescent patients (as is currently occurring at Sheppard Pratt Hospital in Baltimore through a contract with the State of Maryland).

Professional Training

The third policy issue, insuring an adequate supply of mental health professionals with expertise in treating adolescents, is first related to recruiting a sufficient number of mental health professionals (especially child psychiatrists) into the child mental health field, second to training them to use the newer forms of adolescent treatment, and third to placing or distributing them across the country, especially in rural areas. Continuing education for experienced child mental health professionals to teach the use of innovative mental health services for adolescents and to understand recently developed service system models would be useful. Although recent data on mental health professionals trained to work with children and adolescents were not found, shortages are evident based on the difficulties encountered in filling clinical positions. As NIMH funding for clinical training has diminished over the years, one option is that States assume a more significant role in training clinicians to work with children and adolescents. A related and important professional resource, which NIMH could be encouraged to support, is the preparation of mental health professionals prepared to conduct research on childhood disorders, treatment and services-- also reflected as a priority in the recent Institute of Medicine report on child research (1989).

Finally, as new policies for mental health services are deliberated, sensitivity to the needs of different cultural, ethnic and racial groups needs to be a priority. Designing services which are responsive to minority population patterns of seeking help may be more a community level issue; the recruitment and training of minority clinicians has implications at the State and national level. A recent volume about the effective provision of mental health services to minority children and adolescents with mental illness delineates a number of useful guiding principals (see Cross, Barzon, Dennis, et al, 1989).

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Research

Research on mental health services for adolescent mental disorders has lagged behind such research on adults. This state of affairs can be accounted for in a number of ways- failure to give priority to research on this population, a lack of trained investigators and the difficulty associated with conducting research on this group. For example, the classification of mental disorders in children and adolescents has just begun to take form in the past decade with DSM-III and DSMIII-R but considerable controversy persists. Historically, the notions that adolescent disorders were like adult disorders or, alternatively, that those disorders were viewed as temporary (i.e. stage related) and would remit spontaneously, obviated the need for focused research. Since research on mental health services builds on epidemiological and clinical research, a limited scientific base in these areas has made aggressive pursuit of services research on adolescents somewhat untenable.

Ideally, service systems should be designed on the basis of clear conceptions about disorder (including definition, etiology, course and prognosis) and knowledge about the efficacy of treatment for specific disorders and populations. In the absence of an adequate knowledge base in these areas (see Epidemiology chapter of the full report and the Effectiveness section of this report), the provision of mental health services to adolescents through variously formulated service systems has progressed and expanded. While the existing knowledge base offers some general guidance to

DRAFT

the policy maker, as described previously, more precise guidance awaits significant research advances. The unavoidable need for policy and service systems development requires that research on service systems proceed at the same time that the epidemiological and clinical research base continues to develop. Epidemiological and clinical findings will have to be incorporated into policy developments and research on service systems on an incremental basis.

Thus, the following research recommendations touch briefly on epidemiological and clinical research that is directly relevant to service systems developments. A more comprehensive research agenda addressing the preceding areas can be found elsewhere (see IOM, 1989) and, although relevant, it is not the purview of this report. The preceding IOM report has recommended significant increases in support for research on mental health services and systems of care for children and adolescents (four million dollars in 1990 and up to ten million dollars in within five years), while recommending larger amounts for other types of research on children and adolescents.

Research Recommendations

Recommendations for service systems research are developed around the following topics: 1) need for treatment, 2) treatment effectiveness, 3) substitution of services, 4) the quality of care, 5) systems design and development, 6) financing of services.

1. Develop estimates of need for mental health services based on epidemiological surveys. Estimating the need for care goes beyond

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the usual approach of identifying the gap between adolescents with a mental health condition and those actually receiving services. Need for treatment must be defined in terms of severity of illness, level of functioning, family pathology and capacity. As the forthcoming child and adolescent epidemiology catchment area (ECA) studies are being planned, hopefully such parameters will be included.

When clinical need exists, service use does not necessarily follow even when resources are available. In community surveys such as the new ECAs, it is critical to examine attitudes about treatment to find out whether adolescents value or believe in treatment and to identify the conditions under which they would seek treatment. This is particularly important for minority adolescents who may not be as inclined to utilize formal systems of care.

Need for care must be defined in more specific ways that may not be the purview of the new ECA studies, that is, need for specific service system components vis à vis need for any mental health treatment. Questions like the following ones need to be investigated. Which clinical and other characteristics determine whether outpatient treatment is sufficient, when to provide home-based-services or to move into more intensive forms of treatment such as, a day hospital, a hospital inpatient admission or a residential setting? Although there are some general guidelines in the literature, there are no studies which characterize service users (beyond demographic and diagnostic characteristics) by level

DRAFT

of care, or which systematically examine service use across comprehensive service systems. Estimates of duration of treatment, intensity of treatment and cost complete the range of data required to estimate need for treatment across service system components. Developing this type of estimate of need will have to be approached descriptively in service systems with varying organizational approaches and serving different populations before experimental approaches are appropriate. Need for treatment can be tested by examining client and family outcomes associated with various types of treatment- essentially an approach to validating need.

2. Conduct research on the efficacy of various treatment modalities for adolescents. Given the very limited and poorly controlled research literature on the effectiveness of treatment modalities for adolescents, this recommendation pertains to all levels of care and all types of services. An initial priority should be to carefully delineate the characteristics of adolescents who require and benefit from inpatient and residential settings. Research on the more restrictive and expensive forms of treatment needs to be balanced with research on innovative and less expensive forms of care. Future studies on the effectiveness of psychotherapy, psychotropic medication and other outpatient service needs to give special attention to low income and minority populations, to pay attention to specific clinical conditions and co-morbid conditions, particularly substance abuse and other mental disorders. A major initiative could be designed to assess the effectiveness of different treatment modalities for adolescents with conduct

disorders, as this is the most frequently identified clinical population across levels of care and in school supported programs for emotionally disturbed chidlren and adolescents (Friedman, Silver, Duchnowski, et al, 1988). Research on psychotropic medications requires larger adolescent samples and longer follow up periods.

In planning efficacy studies, methodological issues need critical attention. Research on treatment modalities needs to utilize experimental, or quasi-experimental, designs, preferably with random assignment to treatment approaches. If randomized studies are not feasible, good comparison groups must be found. Further, studies need to be longitudinal, to assess combinations of treatments and to pay special attention to reliable and valid outcome measures. With sound information about effectiveness, the next level of studies can be considered.

3. Evaluate the potential to substitute restrictive institutional services for community-based services. The intent is to examine the potential to substitute less expensive community-based care for lengthy institutional treatment. This is based on observations that institutional care may be over-utilized and that the great majority of service dollars are tied up in hospitals and residential treatment settings. Some of these services may neither be required, nor effective (at least for selected clinical groups) but this needs to be very carefully examined and alternative service strategies in place before research to test substitution of service can be undertaken. For example, as a number of States

DRAFT

have returned adolescents from residential treatment centers to their community, there is some indication this may be done without harm. One starting place may be to randomly assign current residential treatment center patients to alternate forms of community care while leaving some in the setting as controls; this could also be done prospectively with candidates for residential care.

Increased use of private psychiatric hospitals by adolescents needs serious investigation before State legislation requires commitment proceedings prior to admission, or the insurance industry makes precertification requirements so tough that necessary admissions are prevented. Adolescent admissions need to be examined in relation to criteria for hospital admissions and questions such as the following addressed. Are rising hospital admissions due to an increase in the rate of serious mental illness among adolescents? Are these admissions necessitated by limited community resources and how could this be altered? Alternatively, to what extent is this increase in admissions a consequence of hospital marketing?

Research to examine the potential to substitute less expensive for more expensive care will require well-controlled studies which compare the costs and benefits of one type of service (e.g. inpatient) with another (e.g. partial hospitalization).

4. Conduct studies to develop criteria for quality care. An initial step may be to obtain descriptive data on the characteristics of clients and clinical practices at each level of

care. This would provide a basis for consensus groups to propose criteria or standards for care that would define quality. A subsequent critical step would explore and identify linkages between clinical processes and client level outcomes to be sure that quality care does in fact result in positive ouctomes. Research directed toward making more explicit the criteria for quality care in discreet service system components (e.g. outpatient psychotherapy, day treatment) is a significant challenge, but less of a challenge than determining quality of care criteria for individualized treatment plans-- which include case management and a range of mental health and other types of services.

5. Conduct research or the service system design and development

The development of service systems which are responsive to the mental health needs of adolescents opens up a wide range of questions. An initial one is where to locate (or under whose auspices) services so that they are perceived by adolescents as accessible. A second critical issue is insuring the legitimate involvement of health, mental health, education, social welfare and juvenile justice organizations in the service system so that services are coordinated at a client level. Comprehensive service models utilizing a continuum of care have been reviewed (e.g. neighborhood health centers, Ventura County, California, the Alaska Youth Initiative) and some research is underway. Further research opportunities to compare approaches to organizing services will emerge as the recently funded child and adolescent demonstrations get underway. Organizational models need to be clearly described,

DRAFT

fully tested and replicated for their differential ability to impact on rates of service use by target populations, quality of care, cost and clinical outcomes.

In the process of examining the preceding variables at a client level, systems level issues need to be critically examined. Two examples include assessing the relationships between policy change and service system capacity and second, assessing the relationship between service system capacity and service system performance. In the first one, the question is whether policy changes intended to expand service system capacity actually result in increased availability and provision of services in the community. Presuming that the provision of services does increase, questions like the following about service system performance might be asked. For example, does the service system provide services to clients who are the most in need and are services provided in ways that meet important needs of clients (e.g. social skills training is provided to socially impaired clients instead of long term psychotherapy).

The preceding relationships address the general effectiveness of service systems. At a more fundamental level, increased understanding about service use in a continuum of care is needed for planning purposes. This moves investigators into the following types of questions:

- What kind of balance is needed among service components, or levels of care, to insure that services are provided at the least restrictive level of care and that treatment

DRAFT

at a higher level is available when greater intensity or protection is required? In a similar vein, how do age, sex, socioeconomic status, ethnic group, developmental stage or geographical variations effect this mix of services?

- When a true continuum of care is in place, what patterns of service use can be expected? Where does service use begin and end in the continuum and what combination of services are required by various client groups?
- What incentives or mechanisms can insure easy movement between private sector and public sector services and across agencies? How much of a role do formal interorganizational relationships play in contrast to aggressive case management at the client level, or is a combination of the two more effective?

At a more discreet level, the usefulness of case management as a systems level intervention needs specific attention. The use of case managers, particularly for seriously emotionally youth, has been adopted across most of the country, however, no research on their effectiveness with adolescent clients was identified in the literature.

Essentially an approach to coordination, case management promises advocacy, brokerage, monitoring and other functions. In some systems, case managers have resources allocated to them to purchase services for clients, others have to seek out resources from other systems, while other types of case managers maintain a

DRAFT

coordinating role but are charged with limiting resource use to control the costs of care. Which approach most effectively succeeds in getting clients the services needed in a timely manner while also keeping costs within some reasonable limits? Resesearch is needed on the kind of training, supervision and other characteristics of effective case managers, especially because special skills are required to successfully negotiate multiple legislative and organizational barriers. Further, questions need to be asked about how adolescents perceive and use case managers.

Finally, service system research is needed on the extent, adequacy and appropriateness of mental health services for adolescents provided in other sectors of the human services sectors--primary health care, juvenile justice and social welfare and the schools. Areas for investigation range from the adequacy of diagnosis and the appropriateness of treatment provided in these sectors to the mechanisms available for coordinating care with the mental health system.

6. Conduct research on alternative methods for financing mental health services for adolescents.

Extensive research on financing can examine issues ranging from varying insurance benefits to mechanisms that create fiscal incentives with the potential to improve community care (e.g. capitation). Creative research is needed to identify financing methods that facilitate implementation and operation of a continuum of care. An example of this type of organizational and funding approach is the authority or consortium type agreements which

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include public and private agencies with varying eligibility requirements, budget cycles, etc. Further, assessing financing mechanisms (like managed care with a network of contracted providers versus a fee-for-service system), for their influence on appropriate use of services needs further attention to identify adolescent client groups that are effected positively or negatively by either approach.

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DRAFT

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DRAFT

TABLE OF CONTENTS

Introduction

Sources of Data....................3
Inpatient Settings....................6
Residential Treatment Centers....................17
Partial Hospitalization....................19
Outpatient Services....................21
Summary....................25
Tables....................34
References....................55

DRAFT

Figures

Figure 1. Percent distribution of admissions to inpatient psychiatric services by type of service: U.S. 1975, 1980, 1986..............................11

DRAFT

Tables

Table 1. Characteristics of selected inpatient hospital admissions ages 10-18 years: United States, 1986..............34

Table 2. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by sex, race and length of stay: United States, United States, 1975, 1980, 1986...............................35

Table 3. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by source of referral: United States, United States, 1975, 1980, 1986...............................36

Table 4. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by prior mental health service use: United States, 1975, 1980, 1986...............................37

Table 5. Rate per 100,000 civilian non-institutionalized population of admissions under 18 years and 10-17 years to selected inpatient psychiatric services by age, sex, and race: United States, 1975, 1980, 1986...............................38

Table 6. Percent distribution of admissions 10-17 years to selected inpatient psychiatric services by age: United States, 1975, 1980, 1986...............................39

Table 7. Percent distribution of admissions under 18 years to all inpatient psychiatric services by diagnosis and age: United States, 1975, 1980, 1986...............................40

Table 8. Percent distribution of admissions 18 years and under to selected inpatient psychiatric services by diagnosis and age: United States, 1986...41

Table 9. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by type of treatment: United States, 1975, 1980, 1986...............................42

Table 10. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by age and primary source of payment: United States, 1975, 1986.....................................43

DRAFT

Table 11. Percent distribution of admissions ages 10-18 years to selected inpatient psychiatric services by race and primary source of payment: United States, 1986..44

Table 12. Number and rate per 100,000 civilian population of residential treatment center beds, additions, residents and patient care episodes (all ages) by State: United States, 1986 45

Table 13. Number and percent distribution of admissions ages 10-18 to partial hospitalization services by patient characteristics: United States, 1986..47

Table 14. Percent distribution of admissions ages 10-18 years to partial hospitalization services by race and primary source of payment: United States, 1986..48

Table 15. Characteristics of outpatient psychiatric services admissions ages 10-18 years: United States, 1986..49

Table 16. Number, percent distribution and rate per 100,000 of admissions under 18 years to outpatient psychiatric services by age, sex, and race: United States, 1975, 1986..50

Table 17. Percent distribution of admissions 10-18 years of age to outpatient psychiatric services by diagnosis, source of referral and age: United States, 1975, 1986..51

Table 18. Percent distribution of admissions under 18 years to outpatient psychiatric services by source of payment: United States, 1975, 1986..........................53

Table 19. Percent distribution of admissions ages 10-18 years to outpatient psychiatric services by race and primary source of payment: United States, 1986..54

DRAFT

INTRODUCTION

The Carnegie Corporation of New York and the U.S. Congress Office of Technology Assessment commissioned a critical review of the existing mental health treatment system for adolescents within the context of a developmental perspective and with sensitivity to population subgroups. The request called for specific attention to the patterns of mental health utilization by adolescents, the effectiveness and appropriateness of the current system, access, cost, coordination with other systems providing care to adolescents, opportunities for changes in services for adolescents (innovations), and conclusions and policy implications.

This document covers only one section of the larger report, namely national patterns of use of mental health services by adolescents. Data from NIMH surveys of mental health services provided in the specialty mental health sector are presented. Only those services covered in the national surveys are included and mental health services provided in other human service sectors like health, education, social welfare, and juvenile justice are not addressed. Because these surveys are cross sectional, some duplication in counting may occur for users of multiple levels of care. Since the surveys collect data during a one month survey period, duplicated counts are likely to be very low.

DRAFT

Use of the current mental health system by adolescents is described using available national data. Service use is presented by level of care. Ideally, service use would be described as use of a system of care but this cannot be done effectively with national data, given regional variations in service availability. The subsequent data present estimates of use of different levels of care at three different time points for the total country. Service components are split into four levels, from the most restrictive to the least restrictive, and defined as follows:

Inpatient - psychiatric inpatient units in state and county hospitals, general hospital psychiatric units, and private psychiatric hospitals.

Residential Programs - residential treatment centers, group homes, therapeutic foster care.

Partial Hospitalization/Day Treatment

Outpatient Services - psychotherapy and psychotropic prescriptions in outpatient clinics and private practice, crisis services such as home-based treatment, emergency rooms, hot lines.

A number of the preceding types of services are not included in current national data bases. The service types that are not covered in this report include: group homes, therapeutic foster care, private practice, home-based crisis treatment, emergency rooms and hot lines.

The questions addressed to the service data defined by the four levels above include:

1) Who receives mental health treatment? This is described by age group (10-14, 15-18 where possible), sex, ethnic group

DRAFT

(limited in most instances to white/nonwhite), and diagnosis (broken roughly into mental retardation, behavioral, anxiety, substance abuse, schizophrenia, affective and adjustment disorders and "other" conditions), prior care and legal status.

2) How do adolescents get to the service component? This is described by referral source.

3) What type of treatment and how much care do they receive? This is presented by treatment type and length of stay.

4) How are mental health services paid for? This is broken into private and public insurance or self pay.

SOURCES OF DATA

The principal source of data (and the only source used in this report with the exception of an occasional reference to other surveys) for national estimates of mental health service use is the National Reporting Program operated by the Survey and Reports Branch, Division of Biometry and Applied Sciences, NIMH. Periodic surveys of mental health facilities are conducted in two parts: a census of all facilities collects limited summary statistics on facility characteristics and patients (e.g. age is available for only three groups- children and adolescents, adults and elderly), and sample surveys which obtain more detailed data on client characteristics such as diagnosis, type of treatment, referral and discharge sources, type of payment and length of stay. These surveys cover most types of specialized mental health facilities in the public sector and some private sector facilities--i.e. private psychiatric hospitals, general hospitals. Outpatient practice in clinics is covered, but estimates of private practice were not obtained. Since 1986, these surveys have begun to include mental health services in jails.

The NIMH data presented in this report cover three points in time - 1975, 1980 and 1986- to allow assessment of changes in the provision of services. Inpatient data are available for all three years, partial hospitalization data for 1986 only, residential treatment center data for every two years and outpatient data for 1975 and 1986.

We begin with the most recent data (1986) for which it was possible to use the age groups 10-14 and 15-18. This is followed by the trend data. However, since the published data for 1975 and 1980 did not include 18 year olds in the adolescent group, the 10-14 and 15-17 year groups are used for the three time periods.

Since the purpose of examining the survey data is exploratory, rather than hypothesis driven, statistical testing was not conducted. Most of the relationships examined involved large numbers which do not require testing for differences; in instances where numbers are small (particularly for minority populations) findings are cautiously stated. However, for the reader who wishes to investigate the data further, statistical analysis can be conducted on the 1975 and 1980 surveys by obtaining two NIMH statistical reports (see Sowder, Rosenstein,

DRAFT

Milazzo-Sayre et al 1981 and Milazzo-Sayre, Benson, Rosenstein et al, 1986). Because the 1986 data have not been published, standard errors can only be obtained by writing to Dr. Ron Manderscheid, Ph.D., Chief, Survey and Reports Branch, DBE, NIMH, Room 18C-07, 5600 Fishers Lane, Rockville, MD 20857. Differences which did not appear to be large enough to be meaningful were not reported in the text of this report.

The only national source of information on the private practice of psychologists and psychiatrists is the National Medical Care Utilization and Expenditure Survey (NMCUES), a household survey conducted by the National Center for Health Services Research. The most recent published data were collected in 1980 and the number of treated adolescents surveyed was too small to derive national estimates (Taube, Burns, and Kessler, 1986). An expanded version of this survey called the National Medical Expenditure Survey (NMES), conducted in 1986, is not yet ready for analysis. We are not aware of sources of national estimates of use of other types of mental health professionals in private practice, particularly social workers and psychiatric nurses.

A recent survey of states conducted by the National Mental Health Association (1989) obtained estimates of children and adolescents in institutional settings. Placements made or paid for by different parts of state governments (mental health, social services, juvenile justice and education) to state hospitals and out of state residential treatment centers were reported.

Finally, there are no national data on a number of types of mental health services. Some of them have been developed relatively recently (e.g. home-based crisis services, hot lines, therapeutic foster care); others have existed for some time but have not been systematically surveyed (e.g. group homes, hospital emergency rooms). Thus, service use may be slightly underestimated. Further, this report does not include mental health services delivered in other human services sectors, namely education, social welfare, juvenile justice or health (except for mental health services in general hospitals). Information on such services, although important to understand the full picture of service provision, is beyond the scope of this report. National data on the other human service sectors is not collected systematically and tends to be scattered and incomplete. Despite the preceding caveats the survey data presented serve three useful functions: 1) they enable examination of the gap between need for services and service use; 2) they allow exploration of the characteristics of adolescents who use each level of care; and 3) they document shifts in patterns of service use over time.

INPATIENT SETTINGS

First, a picture of inpatient treatment in 1986 is presented for adolescents 10 through 18 years of age. Differences in patient characteristics are described by hospital type. This is followed by similar trend data for the three periods (i.e. 1975, 1980, 1986) but there is a slight age group difference; adolescents who are 18 years of age are not included since 18-year-olds were included with adults in publications on the 1975 and 1980 surveys, rather than with adolescents.

In 1986, 127,351 adolescents were admitted to a hospital for a psychiatric condition (see Table 1). Half were admitted to a general hospital psychiatric unit, 35 percent to a private psychiatric hospital, and 15 percent to a state and county psychiatric hospital. Older adolescents (15-18) dominate admissions to all three types of hospitals. Males are admitted more often than females to state and county hospitals, and are slightly more likely to be admitted to a private psychiatric hospital, but the picture is reversed for general hospitals where females dominate.

When hospital admissions are examined by race, whites constitute 80 percent of admissions and this proportion is relatively constant across hospital types. Black adolescents are less likely to be admitted to a private psychiatric hospital than the other two types of hospitals, while Hispanics are rarely admitted to a state and county hospital.

Legal status is of interest because one-fifth of adolescent admissions are involuntary and these admissions occur primarily to state and county hospitals. Private psychiatric hospitals assume a limited role; only 7 percent are involuntary admissions.

The largest group of mental disorders treated in hospital settings are affective disorders, accounting for almost one-third

DRAFT

of admissions. Other significant types of disorders are adjustment disorders and behavior disorders. Substance abuse accounts for 8.6 percent of admissions and adolescents with these conditions are fairly evenly spread out across hospital types. Affective disorders are most likely to be diagnosed in a private psychiatric hospital (42 percent of admissions). The proportion of adolescents with affective disorders in general hospitals is smaller (29 percent) but the number with these conditions is similar to private psychiatric hospitals, and a relatively small part of the state and county hospital caseload.

Source of payment is dominated overall by commercial insurance (60 percent) due mostly to a very high rate of such coverage for private psychiatric hospital admission (81 percent) and general hospitals (56 percent). Payment type for state and county hospitals is mixed; state and county hospitals are the only hospital type where a substantial proportion of clients, (24 percent), pay no fee. Medicaid is also a substantial payor for state and county hospitals, but Medicaid is rarely the source of payment for treatment in private psychiatric hospitals.

Adolescents are most often admitted to an inpatient setting with a referral by the family, a friend or as a self-referral. However, while this is also characteristic of an admission to a general hospital (40 percent), and less so for a private psychiatric hospital, this is not how adolescents get into state and county hospitals (they are usually referred by another public agency -"other" category). The predominant referral source to a private psychiatric hospital is a private practitioner. The picture which emerges is that the general hospital is a source of care for the community at large where adolescents seem to get admitted without the help of other professionals, while the private psychiatric hospital is primarily a source of treatment for patients of private practitioners and other inpatient services, leaving social agencies such as the court or social welfare system to admit to a state and county hospital

One attempt at an indicator of severity and chronicity is whether an adolescent has received prior psychiatric treatment. Given an aim of providing care in the least restrictive setting, adolescents are preferably treated initially in a setting less restrictive than an inpatient one. The information collected inquires about treatment in the previous year in four ways: none, inpatient only, inpatient plus other (outpatient), other only (outpatient only). Two-thirds of admissions fell into one of the prior care categories; for almost one-fifth inpatient treatment was the only type of treatment (within a one-year period) prior to the current admission, and this was constant across hospital types. Given concerns that the private psychiatric hospital might be attracting new clients through marketing efforts, the data indicate instead that their patients are as likely as adolescents using other hospital types to have conditions which persist (based on prior treatment). The only difference observed is that fewer private psychiatric hospital patients previously received outpatient treatment only and were instead treated on an inpatient basis.

Hospital Admission Trends

In shifting to trend data for 1975, 1980 and 1986 for inpatient use, the focus is on changes over time. Tables 2, 3 and 4 present summary data on age, sex, race, length of stay, referral source and prior treatment for all admissions under 18 years of age (less than 5 percent are under 10 years of age). Table 5 presents rates of use for the age subgroups (10-14, 15-17) for these three time periods.

Trends for 0-to-17 year olds

From Table 2 an initial observation is that inpatient admissions for children and adolescents 0-17 have increased by 24 percent between 1975 and 1986, from 83,368 to 112,215. While state and county hospital admissions dropped significantly and general hospital admissions increased by one-fourth, admissions to private psychiatric hospitals almost tripled (see Figure 1).

To some extent, increased use of private psychiatric hospitals may represent substitution for use of state and county hospitals. Such substitution is more likely to have occurred in the general hospital where admissions for this age group increased by 11,000, while state and county hospital admissions decreased by 9,000.

Major shifts in sex over time by hospital type were not observed, but findings related to race (based on a white/non-

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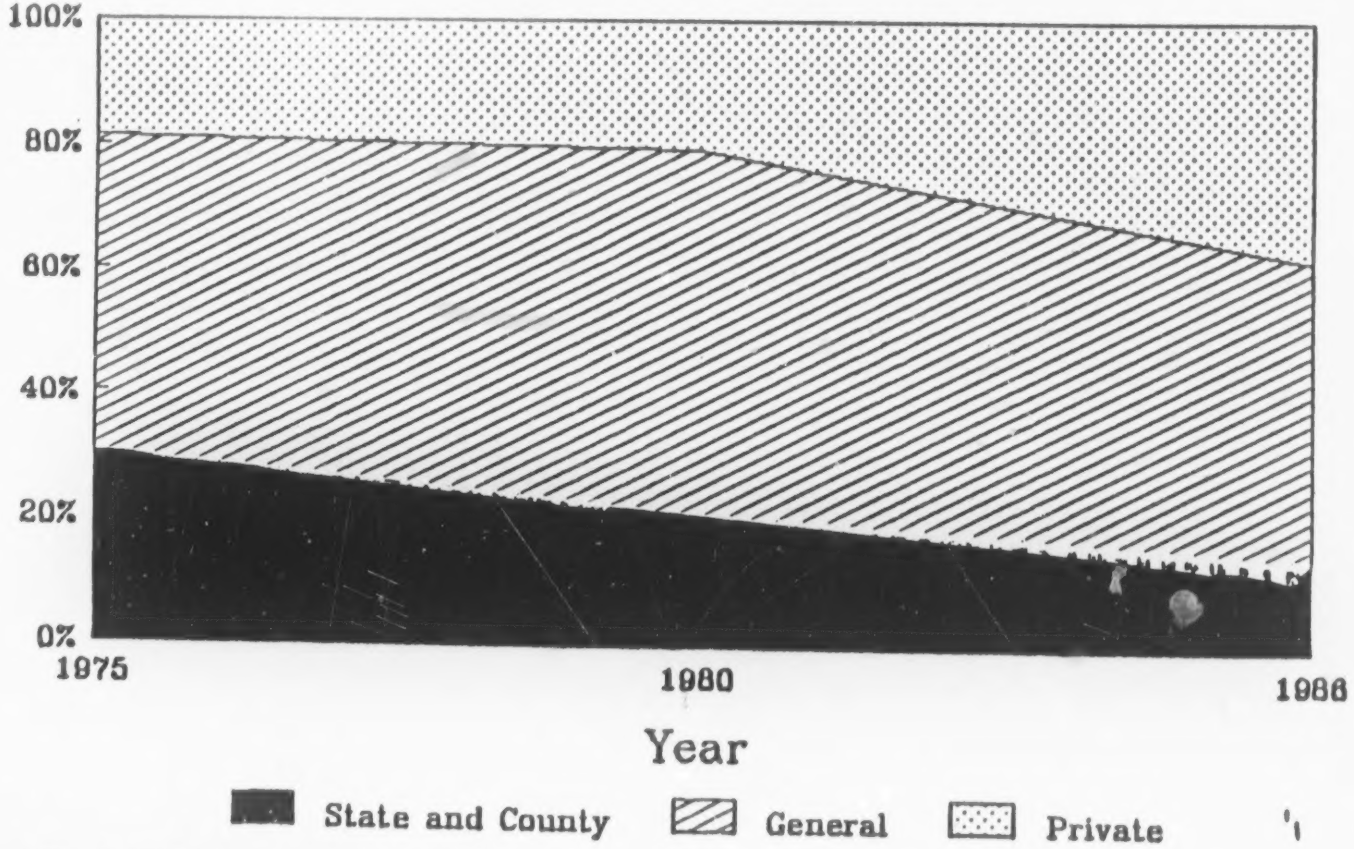
Figure 1. Percent distribution of admissions under 18 years to inpatient psych. serv. by type: US 1975,1980, 1986



Sources: Unpub. NIMH Sample Survey data 1986, NIMH Statistical Note 176, Use of Psyc. Fac. by Ch. and Yth US 1975 white comparison) indicate that the proportion of nonwhites in all types of hospitals has decreased slightly each year from 20 percent in 1975, to 18 percent in 1980, to 13 percent in 1986. General hospitals treated 11,000 minority youth, the private psychiatric hospital 6,000, and the state and county hospital around 2,000. Decreases in length of stay for children and adolescents do not appear to be as dramatic as those observed for adult patients over this time period. The typical length of stay (LOS) is 8-30 days across time periods. The proportion with stays of 31-60 days was relatively constant (14 percent in 1975, 18 percent in 1980 and 14 percent in 1986). Lengths of stay over 60 days dropped only from 29 percent in 1975 to 21 percent in 1986. The only dramatic shift by hospital type is an increase in very short stays (less than 8 days) in state and county hospitals (from 14 percent in 1975 to 30 percent in 1986). It appears that state and county hospitals are being used more frequently for brief evaluations or crisis intervention; half of state and county hospital patients are long stay, indicating that this type of hospital is still a major source of long-term care. More recent 1988 information on the average length of stay in private psychiatric hospitals shows a decrease for adolescents from 48.6 days to 42.3 days (NAPPH, 1988).

The major source of referral (excluding "other" in 1975) for all three years is self, family, or friend. This is particularly true for general hospitals in 1980 and 1986. By 1986, other psychiatric services (inpatient and outpatient) began to assume a

DRAFT

more significant role, indicating that general hospital admissions are also being influenced by specialist mental health practitioners. Referrals to the private psychiatric hospitals were made largely by the private practice mental health professional (42 percent) in 1975, but by 1986 other inpatient psychiatric services had also become an important referral source. This raises a question about whether some of the short-stay state and county hospital patients with commercial insurance might have been transferred to private psychiatric hospitals. For the state and county hospital the primary referral source continues to be the corrections system (see Table 3).

The answer to the question about whether mental health treatment had occurred prior to the current inpatient admission is generally yes (see Table 4). Most patients (61 percent in 1975 and 67 percent in 1986) received either inpatient or a combination of inpatient and outpatient treatment prior to a hospital admission. Change in prior treatment between 1975 and 1986 (data are not available for 1980) is toward admitting fewer patients who had received hospital treatment only- true for all three hospital types. A larger proportion of patients received some prior outpatient treatment before a 1986 admission than a 1975 admission.

Trends for 10-14 and 15-17 year olds

Table 5 provides rates (per 100,000) of hospital admissions over time for 10-14 and 15-17 year-olds and Table 6 provides a percent distribution. As expected, the 15-17 year group is more likely to be admitted to a hospital than the younger (10-14 year old) group, almost 3.5 times as often in 1975. This persists in 1980, but drops in 1986 to a ratio of 2.6:1. (Note that rates for each time period are adjusted by changes in the census for this population.) When admissions rates are examined by hospital type, some patterns emerge. While the rates for both adolescent age groups increase drastically between 1975 and 1986 (no change is observed between 1975 and 1980), more dramatic increases in general hospital and private psychiatric hospital admissions are observed for the younger group.

The types of conditions treated in inpatient settings between 1975 and 1986 shifted toward a higher proportion of affective disorders and behavior disorders for the 10-14 group. This was accounted for mostly by a decrease in diagnoses of adjustment disorders. The pattern for the older (15-17 year-old) groups is similar except for a major decrease from 1975 in diagnoses of schizophrenia (see Table 7). The decreases in adjustment disorder and schizophrenia may be, in part, due to more accurate diagnoses followed by the introduction of DSM-III in 1980. However, as seen in Table 8, which shows diagnosis by hospital type in 1986, the shift toward affective disorder is probably more significantly influenced by the growth of private psychiatric hospitals (i.e. from 150 in 1970 to 220 in 1984- see Witkin, Atay, Fell et al, 1987) and general hospital psychiatry units which provided most of the care for these conditions. For

DRAFT

18 year olds, the state and county hospitals are also an important source of treatment for depression in 1986.

Types of treatment provided, 1975-1986, for 0-17 year olds

Information about the types of treatment provided is available for children and adolescents 0-17 years and is presented in Table 9. Less than five percent of 0-17 year olds do not belong to the age group of interest (children less than 10 years of age who were hospitalized), thus, the distribution largely reflects adolescent users.

An evaluation is provided for virtually all patients in 1986, although this was recorded at low rates in 1975. Individual therapy is the most frequently employed treatment modality for all three time periods and for all hospital types, with one exception. For state and county hospitals, adolescents receiving individual therapy dropped from 79 percent in 1980 to a little more than half in 1986, returning to the level of providing individual therapy in 1975. A similar decrease in group therapy was observed for state and county hospitals, raising a concern about possible deterioration in the quality of care. Of special interest, however, is the apparent growth of skills training and activity therapy in all hospital types, possibly reflecting a shift toward rehabilitation and away from a milieu approach to treatment. Use of drug treatment seems to be changing, but the pattern varies by hospital type. There was a consistent decrease over time in the proportion of youth receiving psychotropic medication in state and county hospitals.

DRAFT

For private psychiatric hospitals, a drop occurred between 1975 and 1980; general hospitals decreased the percentage receiving psychotropic medications between 1975 and 1980, but by 1986 such prescribing returned to the 1975 level.

Source of payment, 1975-1986, 0-17 year-olds

The major change in source of payment between 1975 and 1986 for inpatient use is an increasingly greater role of commercial insurance. This is closely related to growth of mental health benefits in insurance plans and to the growth of private psychiatric hospitals which rely almost exclusively on commercial insurance. Medicaid use actually diminished over this time period, and dropped from eight percent of private psychiatric hospital admissions in 1975 to four percent in 1986. Reasons for decreased use of Medicaid are not entirely clear; lower reimbursement rates under Medicaid in many states and a sufficient number of patients with better insurance coverage may help to explain the limited use of Medicaid in private psychiatric hospitals. Clearly, Medicaid is a barrier to treatment in a private psychiatric hospital. As some private psychiatric hospitals use public bonds to build their facilities, the failure to admit publicly funded patients is an issue that needs attention.

Table 11 allows limited examination of whether there is an association between type of payment and minority status. In most instances, the sample sizes were too small to allow comparisons. What is clear is that blacks and Hispanics who use a private psychiatric hospital have private insurance, almost to the same extent as whites.

RESIDENTIAL TREATMENT CENTERS

More limited information is available on use of residential treatment centers than on the use of hospitals. The NIMH survey years differ as well- alternate from 1969 to 1983 and then 1986, instead of 1975, 1980, 1986. The sources of information on residential treatment centers are 1986 NIMH unpublished census data and two NIMH statistical notes (Stroup, Witkin, Atay et al, 1988; Manderscheid, Witkin, Rosenstein et al, 1985). These data were only recently collected with information about age and then they were large groupings (e.g. 0-17). More than 90% of RTC users are estimated to be adolescents (for 1986 the figure is 94%). However, since such estimates are not consistently available, the data cited are for all ages.

The number of children and adolescents in these settings has been increasing steadily since 1969. Increases in the population corresponds to growth in the number of RTCs over the same time period. The number of treatment episodes and rates of use per 100,000 population (irrespective of age) are found below:

DRAFT

	1969	71	73	75	77
Treatment Episodes	21,340	28,637	29,000	28,302	33,504
Rate per 100,000	10.7	14.0	13.9	13.4	15.6

	1979	81	83	86
Treatment Episodes	33,729	34,426	32,544	47,208
Rate per 100,000	15.1	15.1	14.0	19.7

Since client surveys are not conducted by NIMH on residential treatment centers, information about client characteristics are minimal. A few pertinent observations come from the most recent publication with descriptive data (Stroup, Witkin, Atay, et al, 1988). For the 1983 survey year the residential population is two-thirds male and one-third female. Minority groups constitute over a third of the case load-- two-thirds of them are black. About half of residential treatment center users have a history of prior inpatient care, similar to the inpatient population.

Of potential interest to policy makers may be patterns of use by States found in Table 12. Rates of residential patients at the end of the year vary from .8 per 100,000 civilian population in North Carolina to 26.9 in Massachusetts. To determine how extensively a state places children or adolescents in RTCs, information on out-of-state placements also needs to be

DRAFT

examined in relation to the data in Table 12, which reflect all residential placements within a state irrespective of the placing state. The survey conducted by the National Mental Health Association (1989) collected information from public sector agencies who placed children and adolescents in residential treatment centers out-of-state. Based on this study, the mental health system is not the usual referral source (only 9 percent). Instead juvenile justice is responsible for 17 percent, social services for 46 percent, education for 28 percent.

Little is known about the reasons for residential treatment center placements, who refers clients and pays for them, the characteristics of clients who use residential services, or how effective these services are. An in-depth survey addressing such issues is very much needed.

PARTIAL HOSPITALIZATION

Partial hospitalization, also called partial care and day treatment, was first surveyed by NIMH in 1986; thus, trend data do not exist. The 1986 data found in Tables 13 and 14 present use of partial hospitalization in the settings typically surveyed by NIMH- i.e. hospitals and mental health multiservice centers. Partial programs in places like public schools are not included.

This level of care offers more intensive treatment (usually 5 or 6 hours a day) in contrast to the usual outpatient care (once a week psychotherapy) and provides a range of treatment modalities (individual and group therapy, education and

DRAFT

rehabilitation). It is somewhat more likely to be used by older adolescents (ages 15 through 18) and by males. Minority use (24 percent) is a little higher than expected given their representation in the population. The proportion with an involuntary legal status (22 percent) is slightly higher than the rate for involuntary inpatient admissions and, as expected, higher than the rate of involuntary admission for outpatient users (see next section). Clinically this group does not appear to be as acutely ill as inpatient users. Most adolescents using partial hospitalization carry a diagnosis of adjustment, behavior, or affective disorder, while nearly 10 percent have problems with substance abuse. A significant group (26 percent) are referred from an inpatient setting and most of the remaining referrals (49 percent) come from other sources, most likely social welfare or juvenile justice agencies. The history of prior psychiatric treatment resembles that of inpatient admissions, suggesting that some partial hospitalization may be used as a transitional service from inpatient care to the community (see Table 13).

Use of partial hospitalization appears to be short-term with most adolescents receiving 8-30 days of service and the rest even less. The very brief length of stay in partial hospitalization programs is unexpected. It appears that partial hospitalization is functioning exclusively as a transitional service, either between the hospital and the community, or as a way to prevent hospitalization. Even if this is so, the very limited provision of family treatment and education in these programs is quite surprising, and the provision of individual therapy to less than 60 percent of these adolescent patients a concern. These data, although limited, raise some questions about the adequacy of the therapeutic interventions provided to adolescents in this setting.

In contrast to inpatient care, Medicaid is the primary payor with commercial insurance second. One-third of these patients have no insurance coverage and the service is either provided without a fee or paid by the family. Based on Table 14, black and Hispanic adolescents use Medicaid coverage for partial hospitalization more than their white counterparts.

OUTPATIENT SERVICES

Data on use of outpatient mental health services, also identified as ambulatory care, are collected in major settings like hospitals, mental health centers and clinics. Not included in the NIMH surveys are services by private practitioners and other non-residential services like hotlines, in-home emergency services, emergency room use and therapeutic foster care. Thus, these data represent only a partial picture of use of ambulatory mental health care. Outpatient services were surveyed in 1975 and then not again until 1986. In 1986, 399,152 10-to-18-year-olds were admitted for outpatient mental health care, representing over 1 percent of the 10-to-18-year-old population (Table 15). For 10-to-14 and 15-to-17 year olds, 1986 admission rates represented increases of 54 and 75 percent, respectively, over 1975 (Table 16). Admissions to outpatient mental health

DRAFT

services by older adolescents showed greater growth than for the total under-18 population (54 percent).

Increases in outpatient admissions for children and adolescents were comparable for males and females. A substantial gap in the rates of use between whites and non-whites, observed in 1975, disappeared and was reversed by 1986. The rate of adolescent outpatient admissions in 1975 was higher for non-whites (719 per 100,000) than for whites (505 per 100,000). By 1986 the non-white rate dropped to 629 per 100,000 and the white rate increased to 929 per 100,000 youth. Further, non-white admissions dropped from 22 percent of outpatient admissions in 1975 to 14 percent in 1986, disproportionate to their representation in the population. The failure to observe comparable growth in use of outpatient services is especially problematic given that minority adolescents are considered to be at even greater risk than their white counterparts for many serious problems (e.g. teenage pregnancy, poverty and violent behavior among black male adolescents) that effect mental health.

The most common diagnosis given to adolescents using outpatient services is adjustment disorder (Table 15). This is true of both age subgroups and for both time periods, but as with inpatient diagnoses, adjustment disorder is reported less frequently in 1986 (Table 17). Between 1975 and 1986, increases for the 15-17 group in diagnoses of substance abuse and behavior disorders were observed (see Table 17). The increase from 1975 to 1986 in the "other" category is not meaningful, as it consists mostly of conditions that were not easily regrouped in 1986 (with

DRAFT

the advent of DSM-III) back into the broad diagnostic categories used in 1975.

Most outpatient users attend regular school (95 percent in 1986- see Table 15). Of interest is the finding that 15 percent of the 1986 admissions were involuntary. Since outpatient commitment has been introduced recently with only half of the states having legislation covering involuntary outpatient commitment in 1986, this is significant. The rate of involuntary outpatient admissions is also not terribly different from the rates for users of partial hospitalization (22 percent) and inpatient services (20 percent).

Data about source of referral (see Tables 15 and 17) and prior care reveal that adolescents are about equally likely to seek outpatient services through a referral by self, family, or friend or by an agency outside the MH system (such as schools, social services, and alcohol and drug treatment- coded other). Self, family, and friend as a referral source category was even more important in 1986 than in 1975. Those two types of categories are followed by referrals from the juvenile justice system in 1975. Consistent with the observation that over 40 percent of adolescents seeking outpatient services sought them independently (based on the referral source of self, family, friend), the great majority of adolescents also had not used mental health services previously (around 70 percent)--a finding which was consistent for both years (not shown).

As seen in Table 18, the predominant source of payment for outpatient services for both years was personal payment (42

DRAFT

percent in 1975 and 32 percent in 1986), a potential barrier to care for a significant proportion of the population who could not afford to pay for care. This is further reflected in data on use of commercial insurance which only covered eight percent of treated cases in 1975, although this did increase to twenty-four percent by 1986 and is associated with increases in outpatient mental health benefits across the county during this period. With the increase in commercial insurance and a small increase in use of Medicaid (up to one-fifth of cases by 1986), the no-payment category dropped significantly. However, even with the growth in insurance coverage, by 1986 only half of the outpatient care was covered by any third party. The patterns describing source of payment apply equally to the 0-18, 10-14 and 15-17 age groups (see Table 18).

When payment status was examined in 1986 by ethnic group for adolescents 10-18, blacks and Hispanics were almost twice as likely to fall into the no payment group than whites (see Table 19). Personal payment is a major source of payment for all groups except Hispanics; for Hispanics the most frequent payment type is commercial insurance (46 percent). This does not mean that Hispanics are better off economically than blacks (based on having insurance as an indicator- see U.S. Congress, OTA, July, 1989). The more likely interpretation is that Hispanic adolescents who seek care are largely those who have third party coverage.

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SUMMARY- USE OF ALL LEVELS OF CARE, 1986 AND OVER TIME

In order to put together a picture of service use for all levels of care for adolescents, 10-18 years of age, summary statistics selected from the above-mentioned tables are presented below. The following figures represent national estimates of all adolescent use of specialty mental health care in a year as surveyed by NIMH. Although these data are admissions data (except for residential treatment centers which are treatment episodes) they are the best source for estimating all adolescents under care (as this age group uses very little long term care [i.e., hospitalized for more than a year].

Adolescents 10-18, 1986

Level of Care	Number	%	Rate per 100,000
Inpatient	127,351	22	406
Residential Treatment Center	44,375	8	141
Partial Hospitalization	15,967	3	50
Outpatient	399,152	68	1273
Total	586,845	100	1870

The first observation is that 586,845 adolescents ages 10-18 were served across all types of mental health facilities surveyed by NIMH. This represents only 1.9 percent of the adolescent population and can be split into 1.3 percent using community-based services (outpatient and partial) and .6 percent using institutional settings (hospitals and residential treatment centers). Outpatient services are the dominant level of care (68 percent) in contrast to inpatient (22 percent), residential treatment center (8 percent), and partial hospitalization (3 percent).

These data offer a perspective on the relationship between institutional care and community-based care. For the young person using mental health treatment in organized mental health facilities, 2.4 receive care in the community (outpatient and partial hospitalization) for every one who is treated in an institutional setting (inpatient or residential). This ratio applies only to youth under care in specialized mental health facilities and does not include mental health treatment provided by other human service sectors, either in institutions or the community. However, the distribution of mental health dollars for services for adolescents reverses this relationship with 74 percent of the funding going to institutional care and 26 percent to community care (see Burns and Taube, 1989).

Use of mental health services by adolescents estimated here (1.9%) is very much lower than an earlier U.S., OTA estimate (1986) for children and adolescents. The latter OTA estimate specified that "less than one percent of the Nation's children ...receive care in a hospital or residential treatment center in a given year, and perhaps only five percent ...receive mental health treatment in an outpatient setting" (p.4). The 1986 data presented above estimate inpatient and residential treatment center use for half a percent of adolescents (or 546 per 100,000)

DRAFT

and outpatient and partial hospitalization use for only 1.3 percent of adolescents (or 1,273 per 100,000).

Given what is known about growth in the mental health services system, the expectation is that a 1986 estimate of service use would be higher than one based on 1980 data (OTA, 1986) and not the reverse. Increased use of mental health services by adolescents between 1970 and 1980 was reported by Thompson, Rosenstein, Milazzo-Sayre, et al, 1986 and such growth was likely to continue. Possible explanations for this discrepancy include: 1) the earlier OTA estimate was based on adult service use data (see p.4) which is not appropriate for predicting child and adolescent service use; 2) the OTA estimate was for all ages of children and adolescents, instead of adolescents only, causing the service use rate to be higher. However, when service use rates are calculated for 0-18 year olds, rates are lower, not higher, due to almost no mental health service use in the 0-5 year old group; 3) there was no recent NIMH estimate of outpatient service use when the OTA report was being done. In fact, outpatient services had not been surveyed since 1975, partial hospitalization had never been surveyed (until 1986); 4) the higher OTA estimate may include mental health service settings that were not included in the NIMH surveys (including other human service sectors), however, the data sources do not point to this.

In summary, it appears that the lack of recent estimates of child and adolescent use of mental health services left the OTA report authors with few options except to offer a very crude estimate which appears inflated at this time. The relevance of this observation is that an "appearance" of a decrease in service use is created when the OTA (1986) report is compared with the data in this report, whereas the opposite is true. However, the impact of this difference in the estimate of unmet need is not that great. The OTA estimate was that 70-80 percent of children in need of services were not getting them (1986). If the projected level of mental health need is at least 12 percent (based on Gould, Wunsch-Hitzig and Dohrenwend, 1981), and other estimates could be applied, then the extent of unmet need (the difference between the rate of mental illness and the rate of adolescents treated) based on the data presented in this report (1.9 percent treated) is around 85 percent. Estimates of mental health service provision in other sectors (education, juvenile justice, social services and health) were not available and may narrow the gap between need for treatment and use, but only slightly.

To return to summarizing 1986 adolescent service use across levels of care, major demographic and clinical characteristics are highlighted below:

* Males are much more likely to use partial hospitalization and residential treatment centers than females; use of outpatient and inpatient services is more comparable by sex.

* Minority adolescents comprise a larger share of users of partial hospitalization and residential treatment centers (about one third) than outpatient and inpatient services (about one-fifth).

DRAFT

- The most common diagnoses given to adolescents in outpatient, partial hospitalization and inpatient settings are adjustment, behavior and affective disorders. Affective disorder is the most common inpatient diagnosis.
- Involuntary commitment occurs for 15% of outpatient admissions, for 22 percent of partial hospitalization admissions and 20 percent of inpatient admissions.
- Over 60 percent of adolescents using partial hospitalization and inpatient services had received prior mental health treatment, in contrast to a third of outpatient service users.
- Commercial insurance (60 percent) is the most frequently used source of payment for inpatient treatment, Medicaid (28 percent) for partial hospitalization, and self (33 percent) for outpatient services.

The provision of mental health services by the mental health system to adolescents (defined here as 10-17 because data on 18 year olds are not available for comparison in 1975 and 1980) has increased over the past decade (from 1975-1986). The greatest increase is in treatment episodes in residential treatment centers- a 66 percent increase between 1975 and 1986 for adolescents. Although the rate is high, the number of adolescents using residential treatment centers is small relative to a similar rate (62 percent) of growth in admissions to outpatient services where this increase amounts to over 170,000 more adolescents treated in 1986 than in 1975. Growth in psychiatric inpatient admissions, which has received considerably

DRAFT

more attention than residential and outpatient services, amounts to a 33 percent increase in adolescent admissions between 1975 and 1986. Since the preceding increases were observed for all levels of care (except partial hospitalization as earlier data were not available to examine trends), significant shifts away from institutional care and toward community-based care were not observed.

The growth in inpatient admissions has been controversial, as this is accounted for largely by private psychiatric hospitals. A small portion of the private psychiatric hospital increase, which was 154 percent between 1980 and 1986, may be due to decreased use of state and county hospitals for adolescents. Other explanatory factors may include: an increase in mental illness and mental health problems, such as depression and suicide among adolescents; decreased stigma and greater acceptance of psychiatric care; increased insurance coverage for inpatient treatment; provision of comprehensive mental health services by private psychiatric hospitals (i.e. private psychiatric hospitals are more likely than general hospitals to offer a combination of inpatient, outpatient, partial hospitalization and respite care); and effective marketing of private psychiatric hospital services. Clearly, considerable initiative is being taken in the private sector to assume a greater role in treating mentally ill adolescents. Similar efforts in the public sector are only seen in isolated examples. It is important to note that private psychiatric hospitals for the most part do not treat the public patient (that is, patients without commercial insurance coverage) traditionally treated in state and county mental hospitals.

Other major shifts in patterns of hospitalizing adolescents during this time period include:

* A larger decrease in minority adolescent admissions to state and county hospitals, greater than for non-minority adolescents.
* The provision of less individual and group therapy (by about 20 percent) to adolescents in state and county hospitals.
* A major increase in the use of commercial insurance for psychiatric admissions to inpatient settings in conjunction with a reduced role for Medicaid coverage.
* No significant decrease in the length of stay for adolescents admitted to hospitals, unlike the trend observed for adult psychiatric admissions.

Major trends in the use of residential treatment centers by adolescents are not reported because the available data are limited. However, significantly increased use observed for these facilities is unexpected given the strong policy emphasis during this period toward providing comprehensive care within the community. At least for out-of-state placements, residential treatment center placements are not made to any great extent by the mental health system (NMHA, 1989) possibly indicating that the philosophy of community-based treatment is not consistent across human service agencies. The availability of Medicaid funds to reimburse residential treatment centers may contribute to growth in the use of these facilities.

DRAFT

The rise in use of outpatient mental health services during this period is probably tied to increased awareness and acceptance of using mental health services as well as better reimbursement. The proportion of adolescents using commercial insurance for outpatient mental health services increased from 8 percent in 1975 to 24 percent in 1986. Although significant, the availability of insurance for such services remains seriously problematic. A decrease in use of outpatient mental health services by minority adolescents may be related-- i.e. 7 percent of black adolescent users had commercial insurance, in contrast to 24 percent of white users. The rate of use by minorities was higher than for non-minorities in 1975, but it dropped below the non-minority rate in 1986. This issue needs further exploration by type of minority group and requires oversampling of minority populations in the NIMH surveys to obtain estimates for each minority group of sufficient size to allow examination of the correlates of this problem. A further issue which merits attention is the rise in substance abuse being treated in outpatient services. In 1975 this problem was not even determined to be 1 percent-- in 1986, 11 percent of 15-17 year olds were given a substance abuse diagnosis.

In conclusion, the provision of mental health services to adolescents is increasing across all levels of care. Despite dramatic increases in service use, the low rate (around 1.9 percent for all types of services) of mental health service use relative to need represents a significant concern. The possibility that a number of adolescents are receiving mental

DRAFT

health care through other sectors (i.e. health, education, social services and juvenile justice) needs to be examined in studies at the national, state and local levels to more accurately assess the availability of mental health services. Low rates of mental health service use also suggest a need to study the perceived accessibility of services to adolescents from the perspectives of cost and comfort with seeking care.

DRAFT

Table 1. Characteristics of selected inpatient psychiatric hospital admissions ages 10-18 years: United States, 1986

Characteristics	Inpatient Psychiatric Services							
	Total		State and County Mental Hospitals		Private Psychiatric Hospitals		General Hospital Psychiatric Units	
	#	%	#	%	#	%	#	%
Total	127351	100.0%	18605	100.0%	45177	100.0%	63569	100%
Age								
10-14	38682	36.4%	4196	22.6%	17853	39.5%	16633	26.2%
15-17	68707	54.0%	9506	51.1%	24133	53.4%	35068	55.2%
18	19962	15.7%	4903	26.4%	3191	7.1%	11868	18.7%
Sex								
Male	64505	50.7%	11096	59.6%	24673	54.6%	28736	45.2%
Female	62846	49.3%	7509	40.4%	20504	45.4%	34883	54.8%
Race								
Hispanic	7066	5.5%	*	*	3162	7.0%	3843	6.0%
White nonhispanic	102179	80.2%	14409	77.4%	38106	84.3%	49664	78.1%
Black nonhispanic	14597	11.5%	3715	20.0%	2654	5.9%	8228	12.9%
Other nonhispanic	3509	2.8%	*	*	1255	2.8%	1834	2.9%
Legal Status								
Voluntary	101320	79.6%	7576	40.7%	42057	93.1%	51687	81.3%
Involuntary- noncriminal	25587	20.1%	10923	58.7%	3120	6.9%	11544	18.2%
Involuntary- criminal	*	*	*	*	*	*	*	*
Diagnosis	127351		18605		45177		63569	
Mental Retardation	*	*	*	*	*	*	*	*
Substance Abuse	10899	8.6%	2635	14.2%	3967	8.8%	4297	6.8%
Affective	41212	32.4%	3634	19.5%	19153	42.4%	18425	29.0%
Schizophrenia	7131	5.6%	*	*	2031	4.5%	5006	7.9%
Anxiety	3146	2.5%	*	*	*	*	1774	2.8%
Adjustment	23003	18.1%	3362	18.1%	5576	12.3%	14065	22.1%
Behavior	22331	17.5%	5287	28.4%	7016	15.5%	10028	15.8%
Other	18159	14.3%	2640	14.1%	6507	14.4%	9012	14.2%
Source of Payment								
No Fee	6786	5.3%	3996	21.5%	795	1.8%	1995	3.1%
Self	11804	9.3%	*	*	2227	4.9%	7449	11.7%
Commercial Insurance	76649	60.2%	4473	24%	36513	80.8%	35663	56.1%
Medicare	*	*	*	*	*	*	*	*
Medicaid	16353	12.8%	5716	30.7%	1675	3.7%	8962	14.1%
Other	11050	8.7%	2292	12.3%	1342	3.0%	7416	11.7%
Champus	4282	3.4%	*	*	2625	5.8%	1657	2.6%
Source of Referral								
Self, Family or Friend	39510	31.0%	*	*	11363	25.2%	26271	41.3%
Inpatient	25894	20.3%	3714	20.0%	11216	24.8%	10964	17.3%
Outpatient	15452	12.1%	3581	19.2%	3481	7.7%	8390	13.2%
Private Practitioner	22575	17.7%	*	*	12137	26.9%	9598	15.1%
Other	23920	18.8%	8594	46.2%	6980	15.5%	8346	13.1%
Treatment in Previous Year								
None	42183	33.1%	5315	28.6%	15347	34.0%	21521	33.9%
Inpatient only	24469	19.2%	3583	19.3%	10302	22.8%	10584	16.7%
Inpatient plus other	19682	15.5%	4383	23.6%	6675	14.8%	8624	13.6%
Other only	41017	32.2%	5324	28.6%	12853	28.5%	22840	35.9%

Source: Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases does not meet standards of reliability or precision

Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

DRAFT

Table 2. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by sex, race and length of stay: United States, 1975, 1980, 1986

Sex, Race Length of Stay	Inpatient Psychiatric Services Total	State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
1975				
Number of Clients	83368	25252	15426	42690
Total	100.0%	100.0%	100.0%	100.0%
Male......................	52.6%	64.6%	49.3%	46.8%
Female....................	47.4%	35.4%	50.7%	53.2%
White.....................	79.1%	69.5%	89.8%	68.7%
Nonwhite..................	20.9%	30.5%	10.2%	30.8%
Less than 8 days..........	21.8%	13.6%	13.5%	29.6%
8-30 days.................	34.7%	20.8%	31.9%	44.0%
31-60 days................	14.2%	11.5%	22.7%	12.7%
61 days or more...........	29.3%	54.1%	32.0%	13.7%
1980				
Number of Clients	81532	16612	16735	48185
Total	100.0%	100.0%	100.0%	100.0%
Male......................	53.0%	69.2%	56.1%	46.4%
Female....................	47.0%	30.8%	43.9%	53.6%
White.....................	82.1%	74.8%	88.0%	82.5%
Nonwhite..................	17.9%	25.2%	12.0%	17.5%
Less than 8 days..........	22.6%	16.7%	13.3%	27.8%
8-30 days**...............	37.9%	21.6%	28.5%	47.0%
31-60 days***.............	17.7%	14.9%	22.1%	17.1%
61 days or more****.......	21.8%	46.9%	36.1%	8.2%
1986				
Number of Clients	112215	15953	42502	53760
Total				
Male......................	50.6%	61.2%	53.2%	45.2%
Female....................	49.4%	38.8%	46.6%	54.7%
White.....................	86.6%	81.7%	92.0%	83.8%
Nonwhite..................	13.4%	18.3%	8.0%	16.2%
Less than 8 days..........	28.0%	30.3%	15.1%	37.5%
8-30 days.................	36.7%	20.0%	31.9%	45.4%
31-60 days................	13.9%	*	22.4%	10.3%
61 days or more...........	21.4%	46.2%	30.6%	6.8%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
NIMH, Statistical Note 175, Use of Inpatient Psychiatric Services by Children and Youth Under Age 18, U.S. 1980. Rockville,Md. April 1986
Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases, does not meet standards of reliability or precision
** actual length of stay between 8 and 28 days
*** actual length of stay between 29 and 56 days
**** actual length of stay over 57 days
Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 3. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by source of referral: United States, 1975, 1980, 1986

Source of Referral	Total	Inpatient Psychiatric Services State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
1975				
Number of Clients	83368	25252	15426	42690
Total	100.0%	100.0%	100.0%	100.0%
Self, Family, Friends......	19.6%	14.3%	16.1%	24.0%
Police, Court, Correction .	17.2%	33.1%	10.3%	10.2%
Private Practitioner.......	18.3%	2.0%	42.0%	19.3%
Other Physician............	6.9%	5.8%	8.4%	7.0%
Inpatient Psych. Services..	6.6%	10.1%	4.4%	5.2%
Outpatient Psych. Services.	9.1%	18.3%	7.4%	4.3%
Other......................	22.4%	16.4%	11.4%	30.0%
1980				
Number of Clients	81532	16612	16735	48185
Total	100.0%	100.0%	100.0%	100.0%
Self, Family, Friends......	31.4%	18.4%	23.9%	38.0%
Police, Court, Correction .	15.2%	31.5%	10.8%	11.0%
Private Practitioner.......	18.8%	2.4%	31.2%	20.1%
Other Physician............	8.1%	4.8%	7.3%	9.6%
Inpatient Psych. Services..	NA	NA	NA	NA
Outpatient Psych. Services.	10.4%	18.9%	12.0%	6.8%
Other......................	16.1%	24.0%	14.7%	13.8%
1986				
Number of Clients	112215	15953	42502	53760
Total	100.0%	100.0%	100.0%	100.0%
Self, Family, Friends......	30.2%	*	25.2%	40.1%
Police, Court, Correction**	NA	NA	NA	NA
Private Practitioner.......	19.0%	*	27.7%	16.3%
Other Physician..........**	NA	NA	NA	NA
Inpatient Psych. Services..	20.2%	16.8%	24.6%	17.7%
Outpatient Psych. Services.	11.7%	21.3%	7.6%	12.1%
Other......................	18.9%	46.4%	14.9%	13.8%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
NIMH, Statistical Note 175, Use of Inpatient Psychiatric Services by Children and Youth Under Age 18, U.S. 1980. Rockville, Md. April 1986
Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases do not meet standards of reliability or precision
** Included in Other
Note: Patients may have received more than one type of treatment Thus, percentages may add to more than 100%
Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 4. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by prior mental health service use: United States, 1975, 1980, 1986

	Inpatient Psychiatric Services			
Prior Mental Health Service Use	Total	State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
1975				
Number of Clients	83368	25252	15426	42690
Total	100.0%	100.0%	100.0%	100.0%
None	38.5%	36.0%	34.6%	41.3%
Inpatient Only	44.3%	47.7%	42.7%	38.8%
OP or IP and OP combined	38.4%	34.2%	40.8%	39.9%
1980				
Number of Clients	81532	16612	16735	48185
Total	NA	NA	NA	NA
None				
Inpatient Only				
OP or IP and OP combined				
1986				
Number of Clients	112215	15953	42503	53760
Total	100.0%	100.0%	100.0%	100.0%
None	33.3%	32.1%	33.8%	33.2%
Inpatient Only	18.2%	18.9%	22.1%	15.0%
OP or IP and OP combined	48.5%	49.1%	44.1%	51.8%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
Unpublished NIMH Sample Survey data 1986

Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 5. Rate Per 100,000 civilian non-instituionalized population of admissions under 18 years and 10-17 years to selected inpatient psychiatric services by age, sex and race: United States, 1975, 1980, 1986

Age, Sex, Race	Total	Inpatient Psychiatric Services State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
1975				
Age				
Less than 18	125.8	38.1	23.3	64.4
10-14 years	126.5	48.8	22.7	55.0
15-17 years	433.4	110.8	81.1	241.5
Sex				
Male	130.0	48.3	22.5	59.1
Female	121.5	27.5	24.1	70.0
Race				
White	118.8	31.6	25.0	62.2
Nonwhite	161.8	64.1	14.6	75.7
1980				
Age				
Less than 18	128.1	26.1	26.3	75.7
10-14 years	125.5	27.2	26.8	71.5
15-17 years	442.8	87.6	89.9	265.3
Sex				
Male	132.9	35.4	28.9	68.7
Female	123.1	16.4	23.6	83.0
Race				
White	127.5	23.7	28.1	75.8
Nonwhite	130.9	37.5	17.9	75.5
1986				
Age				
Less than 18	177.3	25.2	67.1	89.9
10-14 years	233.5	25.3	107.8	100.4
15-17 years	608.9	84.3	213.9	310.7
Sex				
Male	175.1	30.13	69.8	75.1
Female	179.6	20.0	64.3	95.2
Race				
White	189.8	25.5	76.3	88.0
Nonwhite	124.3	24.1	28.2	72.0

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
NIMH, Statistical Note 175, Use of Inpatient Psychiatric Services by Children and Youth Under Age 18, U.S. 1980. Rockville,Md. April 1986
Unpublished NIMH Sample Survey data 1986

Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 6. Percent distribution of admissions 10-17 years to selected inpatient psychiatric services by age: United States, 1975, 1980, 1986

		Inpatient Psychiatric Services		
Age	Total	State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
Total under 18				
1975	83368	25252	15426	42690
1980	81532	16612	16735	48185
1986	112215	15953	42502	45587
Percent distribution				
1975	100.0%	30.3%	18.5%	51.2%
1980	100.0%	20.4%	20.5%	59.1%
1986	100.0%	12.8%	39.1%	48.2%
Total 10-17				
1975	80482	23940	14870	41672
1980	77649	15783	16015	45851
1986	107389	13702	41986	30108
Percent distribution				
1975	96.6%	94.8%	96.4%	97.6%
1980	95.3%	95.0%	95.7%	95.2%
1986	95.6%	85.8%	98.8%	66.0%
10-14				
1975	25834	9974	4639	11221
1980	22885	4955	4893	13037
1986	38682	4196	17853	16633
Percent distribution				
1975	31.0%	39.5%	30.1%	26.3%
1980	28.1%	29.8%	29.2%	27.1%
1986	36.0%	30.6%	42.5%	32.2%
15-17				
1975	54648	13966	10231	30451
1980	54764	10828	11122	32814
1986	68707	9506	24133	35068
Percent distribution				
1975	65.6%	55.3%	66.3%	71.3%
1980	67.2%	65.2%	66.5%	68.1%
1986	64.0%	69.4%	57.5%	67.8%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
NIMH, Statistical Note 175, Use of Inpatient Psychiatric Services by Children and Youth Under Age 18, U.S.,1980. Rockville,Md. April 1986
Unpublished NIMH Sample Survey data 1986

Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 7. Percent distribution of admissions under 18 years to all inpatient psychiatric services by diagnosis and age: United States, 1975, 1980, 1986

	Year	
Age, Diagnosis	1975	1986
10-14 years	25834	38682
Total	100.0%	100.0%
Mental Retardation.........	1.9%	*
Substance Abuse............	2.1%	*
Affective..................	10.1%	30.6%
Schizophrenia..............	6.3%	*
Anxiety....................	6.9%	11.9%
Adjustment.................	43.6%	11.5%
Behavior...................	18.7%	26.5%
Other......................	10.4%	21.0%
15-17 years	54648	68707
Total	100.0%	100.0%
Mental Retardation.........	2.2%	*
Substance Abuse............	5.5%	9.6%
Affective..................	15.6%	34.0%
Schizophrenia..............	22.4%	5.1%
Anxiety....................	4.7%	*
Adjustment.................	25.4%	19.5%
Behavior...................	8.2%	17.2%
Other......................	16.1%	12.1%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases does not meet standards of reliability or precision

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Table 8. Percent distribution of admissions 18 years and under to selected inpatien
psychiatric services by diagnosis and age: United States, 1986

Inpatient Psychiatric Services

Age, Diagnosis	Total		State and County Mental Hospitals		Private Psychiatric Hospitals		General Hospital Psychiatric Units	
	#	%	#	%	#	%	#	%
10-14 years	38682	100.0%	4196	100.0%	17853	100.0%	16633	100.0%
Mental Retardation.........	*	*	*	*	*	*	*	*
Substance Abuse............	*	*	*	*	*	*	*	*
Affective..................	11832	30.6%	*	*	7702	43.1%	3690	22.2%
Schizophrenia..............	*	*	*	*	*	*	*	*
Anxiety....................	1979	11.9%	*	*	*	*	*	*
Adjustment.................	4448	11.5%	*	*	1715	9.6%	2459	14.8%
Behavior...................	10258	26.5%	1959	46.7%	3200	17.9%	5099	30.7%
Other......................	8103	21.0%	*	*	3738	20.9%	3479	20.9%
15-17 years	68707	100.0%	9506	100.0%	24133	100.0%	35068	100.0%
Mental Retardation.........	*	*	*	*	*	*	*	*
Substance Abuse............	6601	9.6%	1677	17.6%	2531	10.5%	2393	6.8%
Affective..................	23328	34.0%	788	8.3%	10668	44.2%	11872	33.9%
Schizophrenia..............	3528	5.1%	*	*	*	*	2336	6.7%
Anxiety....................	*	*	*	*	*	*	*	*
Adjustment.................	13389	19.5%	2426	25.5%	3459	14.3%	7504	21.4%
Behavior...................	11826	17.2%	3328	35.0%	3569	14.8%	4929	14.1%
Other......................	8302	12.1%	877	9.2%	2808	11.6%	4617	13.2%
18 years	19962	100.0%	4903	100.0%	3191	100.0%	11868	100.0%
Mental Retardation.........	*	*	*	*	*	*	*	*
Substance Abuse............	2939	14.7%	*	*	*	*	*	*
Affective..................	6052	30.3%	2406	49.1%	*	*	2863	24.1%
Schizophrenia..............	2900	14.5%	*	*	*	*	2227	18.8%
Anxiety....................	*	*	*	*	*	*	*	*
Adjustment.................	5166	25.9%	*	*	*	*	4102	34.6%
Behavior...................	*	*	*	*	*	*	*	*
Other......................	2555	12.8%	*	*	*	*	1505	12.7%

Source: Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases does not meet standards of reliability or precision
Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 9. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by type of treatment: United States, 1975, 1980, 1986

Type of Treatment	Total	Inpatient Psychiatric Services State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
1975				
Number of Clients	83368	25252	15426	42690
Total	100.0%	100.0%	292.9%	100.0%
Individual Therapy.........	80.0%	61.7%	92.9%	86.3%
Family Therapy.............	34.2%	35.3%	42.1%	30.6%
Group Therapy.............	58.8%	61.2%	71.2%	52.9%
Drug Therapy..............	57.0%	48.7%	64.5%	59.3%
Intake/Evaluation..........	21.7%	23.1%	22.2%	20.6%
Self Care Skill Training...	NA	NA	NA	NA
Social Skill Training......	NA	NA	NA	NA
Activity Therapy...........	NA	NA	NA	NA
Education..................	NA	NA	NA	NA
Other......................	NA	NA	NA	NA
No Psychiatric Treatment...	2.4%	3.0%	1.5%	2.4%
1980				
Number of Clients	81532	16612	16735	48185
Total	100.0%	100.0%	100.0%	100.0%
Individual Therapy.........	89.1%	79.3%	95.5%	90.2%
Family Therapy.............	38.1%	28.5%	53.0%	36.3%
Group Therapy.............	62.5%	58.5%	76.8%	58.8%
Drug Therapy..............	42.5%	43.1%	42.7%	42.2%
Intake/Evaluation..........	NA	NA	NA	NA
Self Care Skill Training...	16.8%	25.6%	20.1%	12.7%
Social Skill Training......	36.0%	40.4%	39.9%	33.1%
Activity Therapy...........	72.7%	64.4%	79.7%	73.2%
Education..................	34.7%	50.5%	47.4%	24.8%
Other......................	14.5%	27.6%	12.4%	10.7%
No Psychiatric Treatment...	NA	NA	NA	NA
1986				
Number of Clients	112215	15953	42502	53760
Total	100.0%	100.0%	100.0%	100.0%
Individual Therapy.........	84.0%	61.4%	89.9%	86.0%
Family Therapy.............	56.0%	38.3%	62.9%	55.8%
Group Therapy.............	72.1%	37.6%	80.3%	75.8%
Drug Therapy..............	49.6%	26.4%	43.7%	61.2%
Intake/Evaluation..........	99.1%	100.0%	99.2%	98.7%
Self Care Skill Training...	19.4%	27.1%	13.8%	21.6%
Social Skill Training......	47.8%	59.2%	45.4%	46.4%
Activity Therapy...........	82.6%	71.8%	87.9%	81.7%
Education..................	47.2%	65.0%	65.7%	27.4%
Other......................	3.9%	*	5.5%	2.2%
No Psychiatric Treatment...	*	*	*	*

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children
and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
NIMH, Statistical Note 175, Use of Inpatient Psychiatric Services
by Children and Youth Under Age 18, U.S. 1980. Rockville,Md. April 1986
Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases, does not meet standards of reliability

Note: Patients may have received more than one type of treatment. Thus, percentages may add to more than 100%.

Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 10. Percent distribution of admissions under 18 years to selected inpatient psychiatric services by age and primary source of payment: United States, 1975, 1986

Age, Primary Source of Payment	Inpatient Psychiatric Services			
	Total	State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
1975				
0-17 years	83368	25252	15426	42690
Total	100.0%	100.0%	100.0%	100.0%
No Payment	5.1%	16.2%	*	*
Personal Payment	7.8%	14.9%	2.8%	5.4%
Commercial Insurance	47.5%	25.1%	71.7%	52.0%
Medicaid	19.7%	13.2%	7.8%	27.9%
Other Government	19.3%	30.0%	16.7%	13.8%
Other	0.6%	*	*	*
10-14 years	25834	9974	4639	11221
Total	100.0%	100.0%	100.0%	100.0%
No Payment	5.5%	13.7%	*	*
Personal Payment	3.9%	7.6%	*	*
Commercial Insurance	43.8%	28.7%	68.3%	47.2%
Medicaid	23.7%	18.1%	9.4%	34.5%
Other Government	22.8%	31.9%	20.2%	15.7%
Other	*	*	*	*
15-17 years	54648	13966	10231	30451
Total	100.0%	100.0%	100.0%	100.0%
No Payment	4.7%	17.1%	*	*
Personal Payment	9.7%	20.5%	3.4%	6.9%
Commercial Insurance	50.3%	23.7%	74.0%	54.7%
Medicaid	16.7%	8.2%	7.0%	23.9%
Other Government	17.8%	29.4%	14.6%	13.5%
Other	0.7%	*	*	*
1986				
0-17	112215	15953	42502	53760
Total	100.0%	100.0%	100.0%	100.0%
No Payment	3.9%	13.6%	1.9%	2.7%
Personal Payment	7.6%	8.2%	4.1%	10.1%
Commercial Insurance	63.5%	30.5%	82.2%	58.6%
Medicaid	12.5%	36.5%	3.9%	12.3%
Other Government**	4.3%	*	5.8%	4.3%
Other	8.2%	11.2%	2.2%	12.0%
10-14 years	38682	4196	17853	16633
Total	100.0%	100.0%	100.0%	100.0%
No Payment	3.4%	*	*	*
Personal Payment	6.5%	*	*	9.7%
Commercial Insurance	60.6%	*	80.9%	48.0%
Medicaid	14.1%	33.1%	*	20.2%
Other Government**	4.9%	*	6.3%	*
Other	10.6%	*	*	16.4%
15-17 years	68707	9506	24133	35068
Total	100%	100.0%	100.0%	100.0%
No Payment	4.5%	17.1%	*	3.6%
Personal Payment	8.7%	*	5.6%	10.9%
Commercial Insurance	67.0%	35.1%	82.8%	64.8%
Medicaid	9.4%	28.4%	*	7.9%
Other Government**	3.7%	*	5.5%	3.5%
Other	6.6%	*	*	9.2%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
Unpublished NIMH Sample Survey data 1986

* 5 or fewer sample cases, does not meet standards of reliability or precision
** includes Champus and Medicare for 1986 data
Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 11. Percent distribution of admissions ages 10-18 years to selected inpatient psychiatric services by race and primary source of payment: United States, 1986

	Inpatient Psychiatric Services			
Race, Primary Source of Payment	Total	State and County Mental Hospitals	Private Psychiatric Hospitals	General Hospital Psychiatric Units
Total, All Races	127351	18605	45177	63569
Total	100.0%	100.0%	100.0%	100.0%
No Payment................	5.3%	21.5%	1.8%	3.1%
Personal Payment...........	9.3%	*	4.9%	11.7%
Commercial Insurance.......	60.2%	24.0%	80.8%	56.1%
Medicaid...................	12.8%	30.7%	3.7%	14.1%
Other Government...........	3.7%	*	5.8%	3.3%
Other......................	8.7%	12.3%	3.0%	11.7%
White, non hispanic	102179	14409	38106	49664
Total	100.0%	100.0%	100.0%	100.0%
No Payment................	5.0%	23.3%	*	2.3%
Personal Payment...........	8.3%	*	4.4%	10.4%
Commercial Insurance.......	63.4%	25.2%	82.9%	59.5%
Medicaid...................	12.2%	28.7%	4.0%	13.7%
Other Government...........	4.3%	*	5.7%	4.2%
Other......................	7.1%	11.4%	*	9.9%
Black, non hispanic	14597	3715	2654	8228
Total	100.0%	100.0%	100.0%	100.0%
No Payment................	*	*	*	*
Personal Payment...........	10.5%	*	*	10.5%
Commercial Insurance.......	51.8%	*	69.8%	59.0%
Medicaid...................	14.5%	*	*	11.0%
Other Government...........	*	*	*	*
Other......................	17.0%	*	*	16.3%
Other, non hispanic	3509	*	1255	1834
Total	100.0%	100.0%	100.0%	100.0%
No Payment................	*	*	*	*
Personal Payment...........	*	*	*	*
Commercial Insurance.......	*	*	*	*
Medicaid...................	*	*	*	*
Other Government...........	*	*	*	*
Other......................	*	*	*	*
Hispanic	7066	*	3162	3843
Total	100.0%	100.0%	100.0%	100.0%
No Payment................	*	*	*	*
Personal Payment...........	14.0%	*	*	*
Commercial Insurance.......	51.8%	*	75.8%	*
Medicaid...................	*	*	*	*
Other Government...........	*	*	*	*
Other......................	16.3%	*	*	33.3%

Source: Unpublished NIMH Sample Survey data 1986

* 5 or fewer sample cases, does not meet standards or reliability or precision
Note: General Hospital Psychiatric Units include inpatient psychiatric services affiliated with multi-service mental health organizations (formerly CMHCs)

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Table 12. Number and rate per 100,000 civilian population of residential treatment center beds, additions, residents, and patient care episodes (all ages) by State: United States, 1986

STATE	Number of Organizations	Residential Treatment Additions During Year		Residential Treatment Patients at End of Year		Residential Treatment Episodes		Residential Treatment Beds	
		Number	Rate per 100,000 Civilian Population	Number	Rate per 100,000 Civilian Population	Number	Rate per 100,000 Civilian Population	Number	Rate per 100,000 Civilian Population
Total All Organizations	437	24,515	10.1	23,171	9.5	47,208	19.4	24,547	10.1
Total (Excluding Territories)	437	24,515	10.2	23,171	9.7	47,208	19.7	24,547	10.3
Alabama.......	2	142	3.5	126	3.1	276	6.9	135	3.4
Alaska........	-	-	-	-	-	-	-	-	-
Arizona.......	10	1,074	32.6	867	26.3	1,881	57.1	955	29.0
Arkansas......	2	76	3.2	67	2.8	143	6.1	80	3.4
California....	48	3,264	12.2	2,749	10.3	5,913	22.2	2,906	10.9
Colorado......	17	1,233	38.3	743	23.1	1,980	61.4	801	24.9
Connecticut...	12	486	15.3	751	23.7	1,220	38.4	802	25.3
Delaware......	5	76	12.1	50	8.0	120	19.1	52	8.3
D.C...........	1	30	4.8	22	3.6	52	8.4	22	3.6
Florida.......	9	1,265	10.9	1,180	10.2	2,411	20.8	1,225	10.6
Georgia.......	3	225	3.7	133	2.2	333	5.5	141	2.3
Hawaii........	1	29	2.9	36	3.6	68	6.8	42	4.2
Idaho.........	2	105	10.5	85	8.5	180	18.1	91	9.1
Illinois......	20	2,563	22.3	957	8.3	3,537	30.7	1,067	9.3
Indiana.......	10	387	7.0	489	8.9	830	15.1	578	10.5
Iowa..........	7	475	16.7	337	11.8	860	30.2	346	12.1
Kansas........	1	3	.1	45	1.8	45	1.8	42	1.7
Kentucky......	6	180	4.9	177	4.8	359	9.7	194	5.3
Louisiana.....	3	109	2.4	100	2.2	199	4.4	111	2.5
Maine.........	3	92	7.9	143	12.3	222	19.1	147	12.6
Maryland......	8	411	9.3	428	9.7	815	18.5	425	9.6
Massachusetts.	36	1,092	18.8	1,567	26.9	2,673	45.9	1,631	28.0
Michigan......	22	805	8.8	940	10.3	1,766	19.3	1,002	11.0
Minnesota.....	18	1,690	40.1	576	13.7	2,311	54.9	662	15.7
Mississippi...	-	-	-	-	-	-	-	-	-
Missouri......	16	457	9.0	552	10.9	1,051	20.8	650	12.9
Montana.......	2	62	7.6	81	9.9	146	17.9	96	11.8
Nebraska......	3	94	5.9	119	7.5	214	13.5	136	8.6
Nevada........	2	118	12.4	48	5.0	166	17.4	58	6.1
New Hampshire.	6	114	11.2	140	13.7	251	24.6	141	13.8
New Jersey.....	10	357	4.7	395	5.2	738	9.7	417	5.5
New Mexico.....	5	96	6.6	51	3.5	158	10.8	54	3.7
New York.......	30	2,417	13.6	3,077	17.3	5,440	30.7	3,122	17.6
North Carolina.	3	47	.8	52	.8	101	1.6	58	.9
North Dakota...	1	24	3.6	52	7.8	76	11.4	52	7.8

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Table 12.(con't) Number and rate per 100,000 civilian population of residential treatment center beds, additions, residents, and patient care episodes by state: United States, 1986.

STATE	Number of Organizations	Residential Treatment Additions During Year		Residential Treatment Patients at End of Year		Residential Treatment Episodes		Residential Treatment Beds	
		Number	Rate per 100,000 Civilian Population	Number	Rate per 100,000 Civilian Population	Number	Rate per 100,000 Civilian Population	Number	Rate per 100,000 Civilian Population
Ohio..........	17	955	8.9	752	7.0	1,674	15.6	812	7.6
Oklahoma.......	1	52	1.6	32	1.0	80	2.4	32	1.0
Oregon.........	7	203	7.5	290	10.8	487	18.1	291	10.8
Pennsylvania...	13	709	6.0	1,507	12.7	2,197	18.5	1,479	12.5
Rhode Island...	4	65	6.7	141	14.6	196	20.2	166	17.1
South Carolina.	2	51	1.5	46	1.4	103	3.1	54	1.6
South Dakota...	3	142	20.2	125	17.8	276	39.3	140	19.9
Tennessee......	2	65	1.4	64	1.3	98	2.0	75	1.6
Texas..........	13	601	3.6	700	4.2	1,248	7.5	688	4.2
Utah...........	3	31	1.9	227	13.7	249	15.0	240	14.5
Vermont........	4	52	9.6	58	10.7	109	20.1	66	12.2
Virginia.......	8	121	2.2	365	6.5	498	8.9	413	7.4
Washington.....	8	207	4.7	290	6.6	497	11.3	303	6.9
West Virginia..	4	159	8.3	141	7.4	276	14.4	138	7.2
Wisconsin......	20	1,400	29.3	1,194	25.0	2,479	51.8	1,289	26.9
Wyoming........	4	104	20.7	104	20.7	206	41.0	120	23.9
Guam...........	-	-	-	-	-	-	-	-	-
Puerto Rico....	-	-	-	-	-	-	-	-	-
Virgin Islands.	-	-	-	-	-	-	-	-	-

Source: Unpublished NIMH Inventory of Mental Health Organizations data 1986

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Table 13. Number and percent distribtion of admissions ages 10-18 to partial hospitalization services by patient characteristics: United States, 1986

Client Characteristics	Partial Care Psychiatric Services #	%
Total	15967	100.0%
Age		
10-14	6441	40.3%
15-17	6194	38.8%
18	3332	20.9%
Sex		
Male	11689	73.2%
Female	4278	26.8%
Race		
Hispanic	861	5.4%
White nonhispanic	12133	76.0%
Black nonhispanic	2848	17.8%
Other nonhispanic	*	*
Education		
Regular School	13638	85.4%
Special Education only	2329	14.6%
Never Attended School	*	*
Legal Status		
Voluntary	12111	75.9%
Involuntary- noncriminal	3468	21.7%
Involuntary- criminal	*	*
Diagnosis		
Mental Retardation	*	*
Substance Abuse	1480	9.3%
Affective	2522	15.8%
Schizophrenia	1023	6.4%
Anxiety	*	*
Adjustment	4721	29.6%
Behavior	3443	21.6%
Other	2591	16.0%
Source of Payment		
No Fee	2526	15.8%
Self	2288	14.3%
Commercial Insurance	3273	20.5%
Medicare	*	*
Medicaid	4496	28.2%
Other	3228	20.2%
Champus	*	*
Source of Referral		
Self, Family or Friend	2737	17.1%
Inpatient	4081	25.6%
Outpatient	936	5.9%
Private Practitioner	317	2.0%
Other	7896	49.5%
Treatment in Previous Year		
None	5675	35.5%
Inpatient only	2117	13.3%
Inpatient plus other	2469	15.5%
Other only	5706	35.7%
Type of Treatment		
Individual Therapy	9267	58.0%
Family Therapy	4173	26.1%
Group Therapy	7419	46.5%
Drug Therapy	2315	14.5%
Intake/Evaluation	13274	83.1%
Self Care Skill Training	1762	11.0%
Social Skill Training	7896	49.5%
Activity Therapy	8763	59.4%
Education	5400	33.8%
Other	1969	12.5%
No Psychiatric Treatment	*	*
Length of Stay		
Less than 8 days	5115	32.0%
8-30 days	10852	68.0%
31-60 days	*	*
61 days or more	*	*

Source: Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases does not meet standards of reliability or precision

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Table 14. Percent distribution of admissions ages 10-18 years to partial hospitalization services by race and primary source of payment: United States, 1986

	Partial Care Psychiatric Services
Race, Primary Source of Payment	Total
Total, All Races	15967
Total	100.0%
No Payment	15.8%
Personal Payment	14.3%
Commercial Insurance	20.5%
Medicaid	28.2%
Other Government	*
Other	20.2%
White, non hispanic	12133
Total	100.0%
No Payment	17.4%
Personal Payment	15.6%
Commercial Insurance	19.0%
Medicaid	24.0%
Other Government	*
Other	23.6%
Black, non hispanic	2848
Total	100.0%
No Payment	11.1%
Personal Payment	*
Commercial Insurance	*
Medicaid	42.2%
Other Government	*
Other	11.2%
Other, non hispanic	*
Total	100.0%
No Payment	*
Personal Payment	*
Commercial Insurance	*
Medicaid	*
Other Government	*
Other	*
Hispanic	861
Total	100.0%
No Payment	*
Personal Payment	*
Commercial Insurance	*
Medicaid	36.9%
Other Government	*
Other	*

Source: Unpublished NIMH Sample Survey data 1986

* 5 or fewer sample cases, does not meet standards of reliability

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Table 15.Characteristics of outpatient psychiatric services admissions ages 10-18 years: United States, 1986

Outpatient Psychiatric Services					
Characteristics	#	%	Characteristics	#	%
Total	399152	100.0%	Total	399152	100.0%
Age			Source of Payment		
10-14	206407	51.7%	No Fee	52664	13.2%
15-17	164900	41.3%	Self	135267	33.9%
18	27845	7.0%	Commercial Insurance	93265	23.4%
			Medicare	*	*
Sex			Medicaid	69261	17.4%
Male	217204	54.4%	Other	47725	12.0%
Female	181948	45.6%	Champus	534	0.1%
Race			Source of Referral		
Hispanic	40174	10.1%	Self, Family or Friend	165501	41.5%
White nonhispanic	312917	78.4%	Inpatient	17294	4.3%
Black nonhispanic	40291	10.1%	Outpatient	2228	0.6%
Other nonhispanic	5770	1.4%	Private Practitioner	26527	6.6%
			Other	187602	47.0%
Education					
Regular School	377468	94.6%	Treatment in Previous Year		
Special Education only	7455	1.9%	None	269090	67.4%
Never Attended School	14229	3.6%	Inpatient only	14290	3.6%
			Inpatient plus other	11420	2.9%
Legal Status			Other only	104352	26.1%
Voluntary	339586	85.1%			
Involuntary- noncriminal	55663	13.9%	Type of Treatment**	399152	
Involuntary- criminal	3903	1.0%	Individual Therapy	204095	51.1%
			Family Therapy	123840	31.0%
Diagnosis	399152		Group Therapy	40779	10.2%
Mental Retardation	5296	1.3%	Drug Therapy	17025	4.3%
Substance Abuse	24640	6.2%	Intake/Evaluation	392975	98.5%
Affective	25702	6.4%	Self Care Skill Training	1349	0.3%
Schizophrenia	2653	0.7%	Social Skill Training	3009	0.8%
Anxiety	21970	5.5%	Rehab & Activity Therapy	11952	3.0%
Adjustment	120231	30.1%	Education	4666	1.2%
Behavior	71605	17.9%	Other	7470	1.9%
Other	127055	31.8%	No Psychiatric Treatment	*	*

Source: Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases does not meet standards of reliability or precision
** distribution of treatment includes all persons 18 years and younger

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Table 16. Number, percent distribution, and rate per 100,000 of admissions under 18 years to outpatient psychiatric services by age, sex, and race: United States, 1975, 1986

	Outpatient Psychiatric Services		
Age, Sex, Race	Number	Percent	Rate per 100,000
1975			
Under 18 years	358061	100.0%	540.4
10-14	134202	37.5%	657.3
15-17	94382	26.4%	748.5
Sex			
Male	227411	63.5%	673.5
Female	130650	36.5%	402.1
Race			
White	280501	78.3%	505.6
Nonwhite	77560	21.7%	719.5
1986			
Under 18 years	552090	100.0%	872.2
10-14	206407	37.4%	1246.0
15-17	164900	29.9%	1461.4
Sex			
Male	328786	59.6%	1014.6
Female	223304	40.4%	722.9
Race			
White	476110	86.2%	929.4
Nonwhite	75980	13.8%	629.4

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children
and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
Unpublished NIMH Sample Survey data 1986

note: rate is per noninstitutionalized civilian population under age 18

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Table 17. Percent distribution of admissions 10-18 years of age to outpatient psychiatric services by diagnosis, source of referal and age: United States, 1975, 1986

	Year	
Age, Diagnosis, Source of Referral	1975	1986
10-14 years		
Number of Clients	134202	206407
Total	100.0%	100.0%
Mental Retardation.........	3.2%	1.8%
Substance Abuse............	*	*
Affective..................	2.3%	5.1%
Schizophrenia..............	2.1%	*
Anxiety....................	1.3%	5.3%
Adjustment.................	48.2%	31.2%
Behavior...................	18.0%	17.9%
Other......................	24.6%	37.9%
Number of Clients	134202	206407
Total	100.0%	100%
Self, Family, Friends	26.0%	44.8%
Police, Court, Correction	11.4%	**
Private Practitioner	0.4%	5.4%
Other Physician	8.6%	**
Inpatient	1.0%	2.0%
Outpatient	3.9%	0.8%
Other	48.8%	47.0%
15-17 years		
Number of Clients	94382	164900
Total	100.0%	100.0%
Mental Retardation.........	4.7%	*
Substance Abuse............	*	11.0%
Affective..................	3.2%	8.4%
Schizophrenia..............	3.9%	*
Anxiety....................	1.7%	2.0%
Adjustment.................	37.6%	28.9%
Behavior...................	10.4%	20.1%
Other......................	37.6%	28.7%
Number of Clients	94382	164900
Total	100.0%	100.0%
Self, Family, Friends	27.1%	34.1%
Police, Court, Correction	18.1%	**
Private Practitioner	*	8.8%
Other Physician	6.2%	**
Inpatient	3.2%	7.4%
Outpatient	3.2%	*
Other	41.6%	49.4%

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Table 17. (con't.) Percent distribution of admissions 18 years and under to outpatient psychiatric services by diagnosis, source of referal and age: United States, 1975, 1986

Age, Diagnosis, Source of Referral	Year 1975	 1986
18 years		
Number of Clients	NA	27845
Total	NA	100.0%
Mental Retardation.........	NA	*
Substance Abuse............	NA	17.8%
Affective..................	NA	4.8%
Schizophrenia..............	NA	5.7%
Anxiety....................	NA	*
Adjustment.................	NA	29.7%
Behavior...................	NA	*
Other......................	NA	32.1%
Number of Clients	NA	27845
Total	NA	100.0%
Self, Family, Friends	NA	60.2%
Police, Court, Correction	NA	**
Private Practitioner	NA	*
Other Physician	NA	**
Inpatient Psych. Services	NA	*
Outpatient Psych. Services	NA	*
Other	NA	32.9%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children
and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases does not meet standards of reliability or precision

** Police, Court and Correction and and Other Physician are included in Other category for 1986

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Table 18. Percent distribution of admissions under 18 years to outpatient psychiatric services by source of payment: United States, 1975, 1986

	Year	
Age, Source of Payment	1975	1986
Total under 18 years		
Number of Clients	358061	552090
Total	100.0%	100.0%
No Payment	24.3%	11.2%
Personal Payment	41.9%	32.0%
Commercial Insurance	8.4%	23.5%
Medicaid	13.1%	20.9%
Other Government**	12.0%	0.4%
Other	0.3%	11.9%
10-14 years		
Number of Clients	134202	206407
Total	100.0%	100.0%
No Payment	25.0%	12.3%
Personal Payment	40.4%	30.7%
Commercial Insurance	9.4%	24.4%
Medicaid	16.1%	21.0%
Other Government**	9.0%	*
Other	*	11.5%
15-17 years		
Number of Clients	94382	164900
Total	100.0%	100.0%
No Payment	34.4%	12.6%
Personal Payment	35.5%	36.3%
Commercial Insurance	6.7%	22.6%
Medicaid	9.5%	14.6%
Other Government**	13.5%	*
Other	*	13.5%

Sources: NIMH, Series CN No. 6, Use of Psychiatric Facilities by Children and Youth, U.S. 1975. DHHS Pub. No. (ADM) 81-1142, 1981
Unpublished NIMH Sample Survey data 1986

* 5 or fewer cases, does not meet standards of reliability or precision
** includes Champus and Medicare for 1986 data

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Table 19. Percent distribution of admissions ages 10-18 years to outpatient psychiatric services by race and primary source of payment: United States, 1986

	Outpatient Psychiatric Services
Race, Primary Source of Payment	Total
Total, All Races	39152
Total	100.0%
No Payment	13.2%
Personal Payment	33.9%
Commercial Insurance	23.4%
Medicaid	17.4%
Other Government	0.3%
Other	12.0%
White, non hispanic	399152
Total	100.0%
No Payment	11.0%
Personal Payment	36.8%
Commercial Insurance	23.5%
Medicaid	16.5%
Other Government	0.2%
Other	12.1%
Black, non hispanic	40291
Total	100.0%
No Payment	23.1%
Personal Payment	28.9%
Commercial Insurance	7.5%
Medicaid	20.0%
Other Government	*
Other	19.7%
Other, non hispanic	5770
Total	100.0%
No Payment	*
Personal Payment	53.1%
Commercial Insurance	*
Medicaid	*
Other Government	*
Other	*
Hispanic	40174
Total	100.0%
No Payment	19.6%
Personal Payment	13.3%
Commercial Insurance	41.6%
Medicaid	20.8%
Other Government	*
Other	4.6%

Source: Unpublished NIMH 1986 Sample Survey data

* 5 or fewer sample cases, does not meet standards of reliability or precision

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TREATMENT OF ADOLESCENT SUBSTANCE ABUSE: A NATIONAL REVIEW AND CRITIQUE

Background Paper for United States Congress
Office of Technology Assessment's
Adolescent Health Project

Prepared Under Contract to the Carnegie
Council on Adolescent Development

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Treatment of Adolescent Substance Abuse:
A National Review and Critique

Table of Contents

Page

EXECUTIVE SUMMARY

- INTRODUCTION 1
  - Data Limitations 1
  - Developmental Issues 4
  - Need for Services 6
  - Definitions of Substance Use Patterns 8
  - Models of Chemical Dependency 9
- CURRENT SERVICES 13
  - Prevention and Early Intervention Programs 13
    - Children of Alcoholics 19
    - Student Assistance Programs (SAPs) 21
  - The Treatment Process: Identification, Assessment, Service 23
    - Identification, Referral, and Cross-system Interface 23
      - Schools 23
      - Juvenile Justice Agencies 26
      - Health Care Services 29
      - Mental Health System 32
      - General Problems and Issues 34
    - Self-Help Groups 37
      - Services 38
      - Utilization 40
      - Access 41
      - Effectiveness 41
    - Clinical Services 42
      - Assessment 43
      - Traditional Mental Health Services 50
      - Outpatient Treatment Programs 53
        - Settings 57
        - Staffing 58
        - Utilization 60
      - Residential Programs 63
        - Setting 65
        - Staffing 68
        - Utilization 70
      - Hospital Settings 71
        - Staffing 79
        - Utilization 81
- STANDARDS FOR PLACEMENT IN THE SUBSTANCE ABUSE SYSTEM 101
  - Inpatient Care 104
  - Residential Care 106
  - Day-Treatment (Partial Hospitalization) Care 106
  - Outpatient Services 108
  - Unresolved Issues in Placement Criteria 109
- STAFFING OF ADOLESCENT TREATMENT PROGRAMS 110
- EFFECTIVENESS OF ADOLESCENT SUBSTANCE ABUSE TREATMENT 115

THE ECONOMICS OF TREATMENT; ISSUES OF ACCESS AND UTILIZATION 132
  Individual Costs 132
  Access and Insurance 135
  National Costs and Public Funding 142
  Economic Issues 146
  Access as a Function of Referral Source 148
CONCLUSIONS 151
LIST OF FIGURES 157
REFERENCES 162

Table

Table 1. Treatment Setting for Alcohol and Drug Treatment in Ascending Ordfer of Treatment Cost 133

EXECUTIVE SUMMARY

The nation's substance abuse treatment system for adolescents was examined in terms of access, utilization, effectiveness, cost, coordination with other systems, and policy needs. This report is based on data collected from existing sources (e.g., the professional and scientific literatures, government reports, databases), as well as original data collected specifically for this report, including a survey of state directors of substance abuse agencies, a series of interviews with members of the professional and scientific communities and re-analyses of existing data.

A variety of models of chemical dependency present chemical dependency as a process and describe usage levels on a continuum of intensity and consequences. Despite the range of this continuum, any use by adolescents is basis for concern.

Many programs which are labelled as prevention or early intervention share common dimensions with treatment. Specifically, many programs in the former categories target current users. In addition, the modalities and content of treatment and prevention programs tend to overlap, as both commonly include attention to both skill-building and internal phenomena, often using a group context. Examples include Student Assistance Programs and programs for children of alcoholics.

A number of other systems outside of the traditional substance abuse treatment system (e.g., schools, health care, juvenile justice, mental health) have a critical role to play in treatment efforts, particularly with respect to identification and referral. There are positive examples in which each of these systems have accepted responsibility for involvement and coordinated effectively with the treatment system, or incorporated treatment into its own operations. On the other hand, there are a variety of problems remaining regarding differences among systems in terms of philosophy, language, training, funding, eligibility and geography which inhibit integration of service delivery.

One of the earliest, and still the largest, treatment system is the self-help group movement, including Alcoholics Anonymous and Narcotics Anonymous. Adolescents may seek assistance in the form of a self-help group. More commonly a similar group model (usually based on a 12-step approach) will be incorporated into a professionally based treatment program, usually after some progress has been achieved and the adolescent has accepted the reality of his/her problem. Such groups are often the basis for aftercare. Approximately 47,000 members of AA and 18,000 members of NA are 19 years old or younger.

More formal services usually begin with some form of assessment, a process which is potentially useful for tailoring services, as well as determining effectiveness of treatment. Unfortunately, individual treatment programming and outcome evaluation are more often the exception than the rule. There is much variance across treatment settings with respect to the range of variables assessed. Specific assessment of substance abuse is usually restricted to self-report, often using measures designed for other populations or purposes.

Clinical services vary considerably in terms of cost, intensity and restrictiveness. Outpatient programs are the least restrictive, usually based on group therapy and access to self-help groups. Five out of six adolescents receiving treatment do so in outpatient settings. While the average number of weekly appointments is 1.7, some services are considerably more intensive, requiring daily attendance.

Residential programs represent the next level of intensity and restrictiveness and can loosely be categorized into therapeutic communities, halfway houses, and wilderness-challenge programs. Residential programs tend to focus on resocialization, removal from negative influences in the environment, feelings and values, and re-establishment of family relationships. Supervision is available 24 hours per day and is provided both by professionals and recovering peers.

Hospital treatment is the least common and most comprehensive form of intervention. Though not often used, detoxification and maintenance services are available. More common are a variety of group and individual therapy programs, on-site education, skills development and family participation. The standard, though somewhat arbitrary length of stay is 28 days. Private facilities tend to have a greater range of programs.

Extrapolating from data from reporting treatment units to all units, it appears that a total of approximately 77,000 adolescents were in treatment on October 30, 1987. Extrapolating further on the basis of the ratio between total numbers of clients of all ages served in 1987 and the number in treatment on October 30, it appears that a total of approximately 190,000 youth received some form of treatment in 1987. This number represents a great growth since 1982 in both absolute numbers and as a percentage of the total population in treatment.

Adolescents, especially those treated for alcoholism, tended to be male, but not to the extent that the adult treatment population is male. Adolescents treated for alcohol tend to be treated in units primarily for adults. Utilization rates vary from 61% for-profit enterprises, to 80% for private non-profit settings, to 90% for public facilities.

Approximately 35% of adolescents in treatment at any one time are treated primarily for use of alcohol. Current use data suggests that the gap between need and services available for alcohol treatment is much larger than the gap for other drugs.

Standards for placement, treatment, accreditation and certification and licensure of professionals are not presently standardized. A variety of professional organizations are engaged in developing a basis for more consistent standards, though state requirements will likely continue to vary.

There are numerous obstacles to conducting rigorous outcome research. However, meta-analyses and reviews of the literature have concluded that treatment is generally better than no treatment. More specific findings may be inconsistent, but tend to indicate that success is more likely when the substance of issue is not alcohol or marijuana, other life and personal problems are not present, use did not start at an early age, adjunctive services are included as part of treatment, skill-training is provided, and families are actively involved.

Costs are variable, but generally prohibitive in non-public settings, unless the client has insurance coverage. Neither Medicaid nor the current capacity of the public system are sufficient for the large number of uninsured adolescents. Approximately two of five adolescents receiving treatment do so in settings receiving some public funding. In addition to this problem of under-treatment, there is a potential problem of overtreatment when for-profit facilities aggressively recruit adolescents for treatment based on questionable need. Most health insurance and HMO plans now include treatment coverage, although the industry is reviewing charges more carefully.

The varieties of settings, professions, treatment modalities and populations served result in a multiplicity of systems with variable rules for admission and placement, philosophies of treatment, payment mechanisms, costs, and means of evaluation. Future needs include enlarging the capacity of the system(s), providing greater access for the entire population in need, more information on the characteristics of both clients and treatment settings, and increased research on treatment effectiveness.

INTRODUCTION

The Carnegie Corporation of New York and the U.S. Congress Office of Technology Assessment have commissioned this critical review of existing programs for the treatment of adolescents with substance abuse problems. The specific issues to be addressed in the review include access, utilization, and effectiveness of existing programs, cost and coordination of treatment, innovations in treatment, and policy implications. The request called for attention to services providing treatment for a wide range of problems, including abuse and dependence with alcohol, tobacco, and misused prescription drugs as well as illegal substances. "Adolescent" is herein defined as children aged ten to eighteen, and the importance of finer discrimination regarding the needs of adolescents at different stages within this range is emphasized. Specific needs and services for other specific subgroups, especially low-income and ethnic minorities, are indicated when available.

Data Limitations

This mandate is an ambitious one which, to a large extent, exceeds the data available. Only very recently have the specific health and mental health needs of adolescents been addressed by the service delivery system, and even more recently have efforts begun to evaluate services. The recognition of substance abuse among adolescents as a distinct area in terms of service needs has only occurred in the past decade or so. Indeed, almost half the adolescents in substance abuse treatment today are in programs developed for adults (Noble, 1989). Moreover, the varied factors impacting adolescents' treatment needs around substance abuse are changing rapidly, and research in the area is quickly outdated. Recent efforts to describe and evaluate these factors, including comprehensive reviews by Friedman and Beschner (1989), Catalano et al (1989) and Rahdert (1988) represent major advances in our current understanding of the scope of the adolescent substance abuse problem and the range of services available to adolescents in need of treatment. However, common limitations in the available data include failure to distinguish between age groups within the class of adolescents, failure to specify substances for which treatment is sought, and lack of reliable measures of abuse, dependence or treatment success. Very few studies involve the youngest group of adolescents (those between the ages of 10 and 13). In fact, these youngsters are likely not to even be considered "adolescents" according to the most commonly used medical definition, which specifies "post-pubescence." A disproportionate amount of research involves older adolescents (ages 16-19), who in many cases are also grouped with young adults between the ages of nineteen and twenty-five. Thus, studies differentiating by age according to our guidelines are rare. Studies conducted by private sources (such as the Chemical Abuse Treatment Outcome Registry [CATOR] network), which are more likely to include follow-up data, are also more likely to include only those adolescents whose treatment is paid by private insurers (eg., Harrison and Hoffman, 1987; Hoffman, Bellile, and Harrison, 1987) while studies of publicly funded programs are often incomplete due to funding limitations. Large gaps in data may exist, for these and other reasons.

For this study, a variety of data sources were utilized. Much of the statistical information was derived from published and unpublished data collected in the National Drug Abuse Treatment Utilization Survey (NDATUS) by the National Institute on Drug Abuse (NIDA). (Re-analysis of existing data was performed to derive data specific to adolescents, supervised by John Noble, at NIDA.) Certain complementary data was provided by Ann Blanken, also at NIDA, from data in the Client-Oriented Data Acquisition Program (CODAP), which maintained records of clients in treatment for several years. Unfortunately, the CODAP system, which would have provided information by client characteristics (unlike NDATUS, which focuses on program characteristics) ceased collecting official data in 1981. Some states have voluntarily continued to use this system, and certain data are available from as recently as 1985. Supporting information was made available by the directors of the Chemical Abuse Treatment Outcome Research (CATOR) network, which provides outcome data for private treatment centers, and the directors of the Treatment Outcome Research Study (TOPS) at the Research Triangle Institute. In all of these cases, data for adolescents is collected as part of a larger data collection process, and information was not always available regarding highly specific issues. In addition to these sources, inquiries were directed at professional organizations including the American Hospital Association, the American Society of Addictive Medicine, the National Association of Addiction Treatment Personnel, the National Association of Chemical Dependency Nurses, and the American Insurance Association.

Self-help groups such as Alcoholics Anonymous and Narcotics Anonymous shared information with us as well, as did administrative and treatment personnel in a number of private and public treatment settings. We interviewed clinicians in a variety of programs and private practice settings in an effort to identify common themes and practices. Policy information was obtained from the National Conference of State Legislatures, and National Association of State Alcohol and Drug Abuse Directors (NASADAD) provided data with respect to publicly funded treatment programs. Finally, we conducted our own survey of NASADAD members to locate more specific information with respect to adolescents.

Developmental Issues

The issue of developmental factors is a complex one. The specific developmental needs of adolescents have been noted repeatedly. Early adolescence is marked by shifts in cognitive capacities, especially the shift from concrete modes of thinking to more abstract and global forms of thought. Accompanying this change is increased attention to the impressions of others and increased importance of peer group affiliations. These changes, of course, are part of the early need to develop a sense of autonomy from family. Developmental tasks of mid-adolescence include adjusting to physical changes and developing a set of values which is appropriate to the challenges of the relative independence of the high school years. During this period, the challenges which face the adolescent include increased expectations of parents and schools, increased internal and peer pressure regarding exploring sexuality, dealing with issues of dependency and counter-dependency, establishing intimate relationships, and beginning to plan for the future. Late adolescents actually begin to establish autonomy in areas of their own lives such as career decisions, choice of partners, and, in many cases, employment and other financial demands. Frustrations accompanying these issues are heightened by cognitive and emotional immaturity, and by the ambiguity of the passage from the simpler realities of childhood to the complexity of adult decision-making (Baumrind, 1983).

Specifying age parameters in which these changes may be expected to take place is risky, as developmental rates for adolescents are highly individual. On the one hand, it is likely that the treatment needs of twelve-year-old as compared to seventeen-year-old substance abusers are very different in terms of cognitive maturity, life experiences, drug history, educational deficits, and social/interpersonal functioning. On the other hand, it is also likely that one fifteen-year-old may differ considerably from another on these same dimensions. Although treatment personnel may recognize individual differences and respond implicitly to these differences, few programs include specific methods for systematically evaluating developmental levels or responding to specific developmental needs beyond educational factors.

Need For Services

That many adolescents experiment with psychotropic substances, and that some of these experimenters go on to develop serious problems, is well documented. The 1988 Household Survey on Drug Abuse, used a national probability sample which represented 98% of the total population of the country. The Parents Resource Institute for Drug Education (PRIDE) 1988-1989 survey includes over 38,000 students in grades 6-12. Together, these two surveys represent the most comprehensive estimates of adolescent substance use. These surveys tell us that although use declined slightly between 1985 and 1987, usage rates by adolescents aged 12-17 remains at an alarming level. Nearly one adolescent in six between the ages of twelve and seventeen has used an illicit drug in the past year. Nearly one in ten has used such a substance in the past month. Approximately one-half have used alcohol in the past year, and one-fourth in the past month. One adolescent in eight or nine smokes cigarettes daily, while one in fourteen uses smokeless tobacco. The Household Survey and PRIDE databases produced remarkably similar data with respect to the above frequencies (NIDA, 1989; PRIDE, 1989). Although notable declines have been recorded among youth for some substances; including tobacco and inhalants, use of other substances such as cocaine and hallucinogens, have declined only slightly or not at all among this age group (NIDA, 1989). Furthermore, the NIDA (1989) survey also indicates that there are significant percentages of adolescents that use substances on a weekly basis (5.7% for alcohol, 3.9% for marijuana, and .5% for cocaine).

The need for services exceeds these data regarding substance usage. Adolescent substance abuse tends to correlate with a variety of other life difficulties, including increased delinquency, poor academic performance and eventual school dropout, disrupted family relationships, and emotional and psychiatric problems, notably impulsivity, anxiety, depression, and low self-esteem. Substance abusers have been described as "dissociated from the adult world and more involved with their own particular peer group," (Beschner, 1985) and tend to report conflicts with authority figures in a wide range of positions. However, recent studies have indicated that some of these problems, especially family problems and emotional/psychiatric disturbances, actually predate initiation of drug use (Friedman, 1985; Johnson, 1973). In many cases, substance use appears to be an effort at self-medication on the part of the unhappy or poorly adjusted youngster. These factors underscore the importance of coordinated services for substance-abusing youth. Treatment of the substance-abuse problem alone may fail to address the social and emotional difficulties which preceded this problem, with which the adolescent remains poorly equipped to cope. The majority of substance abusers have already experienced a range of life difficulties which need to be explored and resolved. For example, coordination should include educational personnel in cases of academic problems, social service agencies in cases of family or economic problems, and juvenile justice personnel in cases of legal problems. In developing appropriate treatment for these troubled youth, it is also important to avoid contributing to existing difficulties by exacerbating problematic family dynamics or by increasing the child's stigma among better-adjusted peers, as a result of labeling the child as "sick" or "the problem."

Definitions of Substance Use Patterns

Experimentation with substances does not always lead to enduring problems. Although definitions vary, we will define "experimentation" as occasional use of psychotropic substances which do not interfere with academic, social, vocational or family functioning. "Abuse" is defined as repeated use of psychotropic substances in a manner which is presents a functional hazard. And "dependence" is defined as frequent use of psychotropic substances such that functioning is severely impaired and continued or escalated use of the substance (or substances) is likely, or when evidence of tolerance (increased doses necessary for similar effect) or withdrawal (physiological changes and discomfort apparent upon discontinuation) is apparent. DSM-III-R, the current manual for the classification of mental disorders, defines abuse and dependence somewhat more narrowly. Abuse, in this terminology, is the use of a chemical in a manner that is potentially hazardous.

Dependence is characterized by increased tolerance (decreased effectiveness) for the substance or by withdrawal symptoms if the substance use is discontinued (American Psychiatric Association, 1987).

Other researchers (White, 1989) have suggested that since any substance use during adolescence involves developmental hazards at least, that any use must be considered as abuse in this population. White, for example, suggests that continued use of substances provides adolescents with a substitute for dealing with the anxieties implicit in the developmental tasks of adolescents, and that youth who utilize drugs in this manner face delays in the development of psychosocial competencies. For the purposes of this report, the implicit hazards of any degree of substance use among adolescents is acknowledged, along with the need to differentiate among levels of abuse in making treatment decisions and in interpreting results of treatment research.

Models of Chemical Dependency

Given the pervasiveness of adolescent substance use and abuse, it is notable that the majority of adolescents do not develop substance abuse problems. For those who do,the course of its escalation to abuse and, often, dependence has been described by various observers (Jessor and Jessor, 1975; Morrison,1989). Models for understanding this progression are drawn almost entirely from observation of adults substance abusers, and particularly from white male adult alcoholics. The model most frequently encountered in treatment settings is the "addiction" model, which has been discussed for application to the adolescent population by Morrison (in press). Early involvement, which may begin at a very young age (ten to twelve years) is often characterized by experimentation, most frequently with substances which are readily available such as tobacco, then alcohol, and frequently inhalants. If experimentation continues, it is most likely to then include marijuana. Tobacco, marijuana and alcohol, considered "gateway" drugs which may lead to greater involvement with other illegal substances, are often used together by adolescents. By early high school, 30% of adolescents have at least experimented with illegal drugs (Newcomb and Bentler, 1989).

The "addiction" model of substance abuse, as described by Morrison (in press), suggests that during this early stage of experimentation, adolescent drug use is mediated largely by peer pressure and the desire for social acceptance. Young adolescents during the stage of experimentation most frequently use drugs while with peers. For some adolescents, substance use never progresses past this stage. Some experts have suggested that due to their emotional immaturity and developmental needs, any drug use by children or adolescents should be considered abuse while others perceive this early stage of experimentation as relatively benign if substance use terminates at this point. It is unclear from available data what percentage of substance-involved adolescents go on to develop substance-related problems. However, a fairly high rate of "spontaneous remission" has been suggested (Fillmore et al, 1988).

The earliest problems that develop most frequently involve intoxication, hangovers, and using substances in a hazardous manner, such as driving while intoxicated. For those who go past the experimentation phase, substance use occurs more regularly, often several times a week, and repercussions of substance use (emotional lability, family arguments, legal involvement) begin to accumulate. During this stage, adolescents report that they use substances in order to function socially and to enhance self-esteem. This type of drug use is described as "abuse" rather than dependence or addiction.

Substance abuse, according to Morrison, is a social/cultural or behavioral phenomenon, involving increased temptation or desire to use a drug, or using it in a manner that is clearly hazardous. The line between abuse and addiction, according to Morrison, is crossed much sooner by genetically predisposed adolescents than by adults, within an average of six to twelve months after initiation of regular abuse. "Early addiction," according to this model, is characterized by substance use for the express purpose of escaping fear, frustration, or hurt. There are "blackouts" during which the abuser fails to recall activities occurring under the influence of the substance. There is anxiety due to loss of control and consequences, and the appearance of withdrawal symptoms if use of the substance is discontinued. These symptoms are similar to those which appear in chemically dependent adults, but are described as intensified and progressing more rapidly in adolescents. "Later addiction" is characterized by increasingly orienting one's life around the use of the substance, repeated failed efforts at discontinuing use, physical and social deterioration, and substance use continuing more to maintain even this lowered level of functioning instead of for euphoric or pleasant sensations.

Although the addictions model is currently in place in most treatment settings, its applicability to the adolescent population, and its value in developing a treatment strategy, have been questioned (Bailey, 1989). The most compelling alternative model, the behavioral model, treats substance abuse like any other problem behavior. This approach assumes that substance use is immediately reinforced, largely by anxiety reduction, and this reinforcement, rather than a biochemical change, maintains the behavior. A approach to treatment based on the behavioral model has been utilized with some success with adult alcoholics (Sobell and Sobell, 1978) but its usefulness with adolescents has not been well documented. Bailey suggests the use of the term "chemically dependent" rather than "addicted," in order to reduce the pejorative tone and, possibly, to avoid aligning oneself in this controversy. It seems to be an especially appropriate term for adolescents, who are often polydrug users and whose dependencies are often quite nonspecific.

CURRENT SERVICES

Prevention and Early Intervention Programs

The distinction between prevention and treatment services is often vague. In both cases, the primary goal of the intervention is demand reduction for substances of abuse. The distinction between treatment and prevention can be made on the basis of two dimensions - characteristics of the target population and characteristics of the intervention. "Intervention" is sometimes used to describe programs that fall between prevention and treatment services, as in "early intervention." It is used here in its broader sense, to denote any service, program or change effort.

As described above, what is commonly generically described as substance abuse actually consists of a continuum of behaviors, Although certain programs, especially educational programs geared towards elementary age children, are true "primary prevention" programs targeted at non-users, many of the current prevention programs are in fact oriented towards early substance abusers. For the sake of efficiency, primary prevention programs are actually delivered to all adolescents, as in policy change efforts, media campaigns, or classroom interventions for entire classes, grades, or schools. Such programs will not be considered within the context of this paper.

More commonly, prevention programs are targeted at "high-risk populations," a concept which has become increasingly popular in the field of substance abuse intervention. Such populations are described as having one or more characteristics which increase the probability for substance use. Research on the strength of risk factors, and on the exact pathways linking risk factors and substance use is growing, but still in the developmental phase (Newcomb and Bentler, 1989; Hawkins, et al, 1989). Such factors are located within the individual (physiological variables, attitudes, anti-social behavior, depression, poverty, academic failure), the family (parental substance use, poor family bonding, family conflict and mismanagement), the social environment of the youth (social isolation, friendships with substance using peers, poor school bonding), and the larger community (social norms, availability, laws and policies).

Two strategies have been followed for using these risk factors in interventions. In some cases, risk factors are used to identify specific target populations. In others, risk factors become the target for intervention, regardless of the method of identification. These strategies are used independently or in tandem. In either case, the concept of high risk has been the driving force behind many, if not most, of our current prevention programming. The Office for Substance Abuse Prevention (U.S. Department of Health and Human Services; Alcohol, Drug, and Mental Health Administration) has been funding local efforts targeted at high-risk youth as one of its primary efforts since its inception in 1986. The other major source of Federal funds for substance abuse prevention is the Department of Education's Drug-Free Schools and Communities program, also initiated in 1986. Most of the funds from this program are funneled through state agencies, many of whom target high-risk youth as their primary interest.

The relevance of this development for the current discussion of treatment is that many high-risk youth have already initiated the use of alcohol and other drugs and may be found anywhere along the continuum of use as described above. Program planners and service delivery staff are obviously aware of this and consequently design services which are concerned with both current and future use, though both the funding source and rationale for this program may retain a prevention orientation. Current usage is certainly implied in the frequent case in which a prevention program is evaluated in terms of its ability to reduce, rather than prevent, usage.

Thus, the line between prevention and treatment is blurred at the point of target group definition and recruitment methods. In addition, the actual intervention strategies used in prevention and treatment programs often contain come common components. Traditionally, prevention may have been associated with the transmission of knowledge and information (as in "prevention and education") or perhaps a change in attitudes that would protect an individual against the temptation of future use. Such strategies were found to have minimal positive effects, and in some cases were shown to be counter-productive. Equally, if not more common today, are prevention programs that focus on current behavior (e.g., assertiveness and refusal skills, coping strategies, problem-solving skills, communication skills) and/or internal phenomena

phenomena (e.g., as locus of control, depression, self-concept, awareness and expression of feelings, and insight with respect to the reasons for their own use or potential use. These techniques are often used in treatment programs as well.

Moreover, the modalities and settings for prevention programs are often indistinguishable from those used by treatment programs. Many create regular meetings of small groups of adolescents which may be time-limited or open-ended, with either a closed or open membership. These are sometimes called support groups, a rather generic term which may refer to groups whose focus may range from purely educational to what would appear to an observer to be group therapy. Most groups formed for prevention purposes strike a middle ground between information-provision and group-process, usually labelled as "psycho-educational." Some prevention programs also provide individual intervention, such as specific skills training or individual counseling, a strategy more commonly associated with treatment. Prevention programs are sometimes found in settings not usually not associated with treatment (e.g., school, churches, recreational clubs and organizations), but they can also be found in treatment agencies, mental health centers, and even hospitals.

These observations are not offered as negative criticism. If anything, social services in general tend to be excessively compartmentalized, failing to consider the range and overlap of target needs****. It would rarely be efficient to thoroughly screen potential participants for the purpose of excluding users from non-users in a prevention setting. In addition, the reality of current funding opportunities leave many agencies with little choice but to conceptualize their intervention strategies as constituting prevention, despite the broad needs of their clients and, in some cases, their mandates to serve all youth. Considerable funding has been committed to treatment programs already in place and actually represents the bulk of federal monies available for substance abuse programs. However, these programs too rarely provide treatment for adolescents (National Conference of State Legislatures, 1989). Consequently, clinicians and administrators report unreasonably long waiting lists for access to adolescent services. The result is that some forms of treatment may occur in the name of "prevention".

In sum, the distinction between treatment and prevention may not always be possible by observing what is done, nor with whom it is done. In spite of these similarities, differences do exist between prevention programs and treatment programs. Treatment programs are most commonly organized around the expectation that substance use among clients has progressed past the stage of experimentation, and that clients are at least in imminent danger of losing control of their substance use and creating serious hazards as a result of substance use. Prevention programs are more likely to assume early substance use if any. One corollary of this difference in assumptions regarding the target population is that prevention programs are often aimed at a younger age group, and focus on the developmental needs of older children and early adolescents, while treatment programs are more often geared towards adolescents approaching maturity, such as those between the ages of sixteen and twenty, and often include an independent-living component. Treatment programs are most frequently offered by specific health-service providers and include at least some element of a medical model, regarding substance abuse as a form of psychopathology. Prevention programs are frequently offered in community and education settings which provide services other than health or mental health services, such as youth clubs, recreation facilities, and schools. Treatment programs are more likely to include a definitive element of external limit-setting, such as urine screening and at least the option of inpatient, locked-door placement, while prevention programs focus more heavily on social and internal sources of limits.

Some programs provide services to those who are clearly abusing drugs and need to change behavior immediately. Others may focus on non-users in an attempt to prevent or forestall initial usage. Such individuals may not need to be treated but may benefit from protecting or strengthening. Finally, there is a large middle ground, often still called prevention, serving adolescents who are at risk for using and may have begun using. These programs may focus on treating, strengthening or protecting youth. It is beyond the scope of this paper to provide a comprehensive review of even that portion of the prevention field that serves this middle ground. As an conservative indication of the prevalence of this approach, the Office for Substance Abuse Prevention has provided approximately $103 million in funds to approximately 180 grantees to provide prevention services to high-risk youth. It is anticipated that these numbers will significantly increase in the near future. While some of these are primary prevention efforts and intervene at the levels of systems or communities, many are focused on change at the individual level.

The other major Federal effort is located at the Department of Education, which is likely to receive $545 million dollars for its Drug Free School's Program. Most of these funds go to state and local funds for education, prevention, early intervention, and rehabilitation referral. If past efforts are any indication, many of the prevention funds will be spent on high-risk youth. Two examples of the overlap in populations and service modalities will be presented as illustrations of this phenomenon.

Children of alcoholics

There is an increasing literature and awareness regarding the relatively high rates of alcoholism within the population of children of alcoholics (COAs) (Smart and Fejer, 1972; Zigler-Driscoll, 1977, Cotton, 1979). In addition, COAs have been shown to be at risk for a number of psychosocial difficulties, including anti-social behavior, academic failure, social isolation, external locus of control, low self-esteem, and depression (West and Prinze, 1987; Sher, 1987; Emshoff, in press).

In response to this recognition, it would appear that the risk factor of parental alcoholism has generated more intervention than any other single factor. The usual rationale for such programs is focused on the prevention of the above conditions. The reality for service providers is that they find themselves face-to-face with many children already manifesting these conditions or experiencing serious distress and trauma. Most programs will refer the most severe of these cases to other services. A few separate their services into those provided for current substance abusers and those that are designed for non-users. However, the majority do not make this distinction. Clearly, a considerable proportion of most preventive interventions focus on dealing with a variety of current difficulties regardless of substance abuse status.

Most COA interventions employ modalities and techniques that might be difficult to distinguish from treatment. Most programs use a small group format which is designed to provide mutual support, reduce feelings of isolation, increase the awareness of the commonality of experience, and allow for the practice of new relationship skills. Typically, these programs consist of some combination of information/education, skill-building, social support, and attention to socio-emotional issues. While each of these components can be conceptualized as either prevention or treatment, the four components as listed above include a range from the more preventive to the more treatment-oriented. In addition, some COA programs directly address the use behaviors of the group participants, often by incorporating some elements of a "12-step" program, modeled after the program used by Alcoholics Anonymous. (This program is discussed in greater detail under "Self-help groups.") The confusion regarding the overlap of prevention and treatment for this population is revealed in the survey responses of COA service delivery staff to questions regarding their adolescent program's perspective regarding prevention versus treatment. In response to a broad question regarding their orientation, most staff and program administrators respond that they are providing prevention services. However, when asked about the proportion of time and effort that is focused on the current issues and functioning of their client populations as compared to resources devoted to the prevention of future difficulties, most admit that there is more attention given to current concerns (Emshoff and Starnes, in preparation).

Student Assistance Programs (SAPs)

A relatively recent phenomenon is the availability of substance abuse counseling in the schools. These programs, generally known as Student Assistance Programs (SAP's) were modeled after employee assistance programs and both were founded from a prevention perspective. Such programs make the assumption that providing on-site, immediate intervention is a cost-effective strategy, when compared to the costs of lost productivity of an employee or student. They focus on identifying students with problems, helping them to acknowledge their difficulties, and making referrals to other services in the community. In some cases, they utilize peer counselors or guidance counselors already involved with the school programs. Their effectiveness is facilitated by interfacing with both school and community resources and by providing careful protection of the students' privacy. Some SAP's provide actual outpatient treatment. Others offer crisis intervention services and generally assist with problem assessment and referral, thus becoming part of the access network for more comprehensive services. SAPs are designed to respond to a comprehensive array of student needs. However, the issues of substance use/abuse, peer use, and familial use are probably the most common precipitating events. As such, it is the first intervention contact regarding substance use for many adolescents. They focus on identifying youth with problems, helping them to acknowledge their difficulties, and making referrals to other services in the community.

These efforts clearly fall in the blurry area that defines the boundary between treatment and prevention. In addition to self-referral, students may be referred by peers, teachers, counselors, other school staff, or parents. It is doubtful that such referrals would occur in the absence of some symptomatology.

On the other hand, SAPs should not be a substitute for the full treatment services available. The unfortunate reality is that in many communities, SAPs are among the only substance abuse intervention services available to low-income youth.

The appeal of such early intervention as a mode of preventing more serious pathology is evident in the widespread adoption of this strategy. Journals and associations have been created for this strategy. Journals and associations have been created for users and potential users.

The Treatment Process: Identification, Assessment, Service

Identification, Referral, and Cross-System Interface

In the majority of cases, referrals for substance abuse treatment are made directly by family and friends (Hubbard et al, 1989; Harrison and Hoffman, 1989; survey conducted by the authors). However, other social systems, institutions or agencies may be better informed and able to identify adolescents in need. Determination of appropriate services involves assessment of individual needs as well as available resources, a process which may require knowledge and experience not available to most lay people. Community agencies, institutions and systems have been active in this identification process. However, such identification and referral represents the extent of service provision by most agencies. For this reason, increasing emphasis has been placed in recent years upon enhancing interface between substance abuse treatment providers and agencies such as schools, juvenile justice personnel, child and family welfare agencies, and mental health care providers.

Schools

The function of the school system in identifying and assisting youth in need of help has long been recognized. Most adolescents spend a considerable proportion of their time in school, and difficulties are often reflected in schoolwork and behavior in schools before they are recognized at home or in peer groups. In 1984, 21% of schools surveyed nationally indicated that substance abuse problems were the biggest problems faced by the schools, second only to discipline (Moskowitz & Jones, 1988). It is likely that this percentage has increased in the interim since these data were collected. Despite recognition of this problem, school systems are often reluctant to become overly involved in issues outside the range of education. This reluctance reflects not only the fact that personnel are already overworked, but also that many schools feel that they are being called on to handle a variety of social and personal problems and that such demands may dilute the resources necessary for conveying traditional academic material. In addition, boundaries and lines of responsibility are often blurred when schools do express an interest in dealing with an issue such as substance abuse. Finally, there is a considerable amount of denial within school systems regarding the extent of the substance abuse problem within their own schools.

The recent proliferation of SAP's indicates that certain schools are recognizing that substance abuse problems must be recognized, that substance abuse interferes with academic achievement, and that "since schools have long played a key role in identification and intervention for many health and social problems, they must acknowledge that role's implications and fill it effectively (Muldoon & Crowley, 1986)". Even where formal

SAP's are not available (the majority of school systems), teachers and guidance counselors are often offered specialized training to improve their ability to identify and advise adolescents around substance abuse problems.

Problems encountered by school personnel attempting to increase their involvement in this process have been described by Zinman and Cox (1988). Primary among these are lack of support within the community and lack of administrative support within the program. In addition, a range of problems results from poor inter-agency communication and cooperation. In particular, it is important for school personnel to make effective use of community treatment resources, rather than attempting to provide long-range counseling themselves, and to augment rather than replace primary prevention curricula implemented elsewhere in the school.

In some states, documentation of efforts at coordination and specification of agency responsibilities is required before funding for school-based programs is made available on a state level. This process has been described as a successful approach to enhancing agency interface (Lourie, 1989).

An Indiana program described by Toepp (1989) involves interface between schools and juvenile justice personnel to simultaneously address issues of substance abuse and truancy. Although this is a relatively small program (twenty clients at a time), it is especially interesting in that it coordinates resources between two agencies, involves parents as well as students, and it involves both identification and service provision, in the form of group counseling with a social worker and individual contact with a diversion officer in the court.

Unresolved issues facing school systems attempting to develop identification and referral resources include concerns about confidentiality, coordination of services for multi-problem students, increasing parental involvement in programs, and the advisability of increasing treatment services, as well as identification and referral, within the school (Lourie, 1989; Toepp, 1989, Zinman and Cox, 1988).

Juvenile Justice Agencies

The incidence of substance abuse problems among adolescents served by the juvenile justice system is considerably higher than that among other adolescents (Hawkins et al, 1989; Elliot, ****) One recent study found that self-reported delinquent activity is a more powerful predictor of alcohol and drug abuse than family relationships, employment activities, or family deviance (Arthur, 1989). A survey of state-funded programs conducted by the authors indicates that court-related referrals account for a large percentage of the referrals to these programs.

As a result of increased recognition of the overlap of service needs of delinquent and substance abusing youth, interface between service agencies is increasing. Programs to identify and, in some cases, treat substance abusing youth in the juvenile justice system serve several purposes. They are often provided as diversion programs for youth entering the juvenile justice system, developed as alternatives to the juvenile adjudication process. In this process, they reduce the caseload of the court system while providing rehabilitative services to youth. In some cases, court personnel monitor the juvenile's participation in treatment as a condition of diversion or probation (Atkins, Dickerson, & Slebodnik, 1989; Byer). One advantage of providing these services within the juvenile justice system is that court involvement provides added leverage which increases cooperation with treatment (Byer, 1989; Jurkovic & Bruce, 1988).

Generally, services provided in court settings, like those provided by schools, involve primarily assessment and referral. Assessment procedures vary. In some programs, urine drug screens are used, although these often provide only limited data. One administrator stated that urine drug screens underestimate substance abuse, even when compared to self-report (Bruce, personal communication). Some programs utilize standardized measures of substance abuse (eg., Davidson, 1989). Multidisciplinary assessment, including evaluation of family characteristics, medical status, and psychological functioning in addition to substance use, is recommended in some cases.

These organizations may operate under the funding umbrella of Treatment Alternatives to Street Crime (TASC), a diversion program which was developed for use in the adult corrections system and has now been expanded to include juvenile offenders. An example of a TASC-funded comprehensive evaluation and referral program for juvenile offenders is described by Jurkovic and Bruce (1988). This program is unusual in that it involves screening of all juveniles in its catchment area against whom petitions are filed. If initial screening reveals a substance abuse history, more comprehensive assessment is completed, including substance use and consequences, health and psychological status, social skills, family and peer relationships, and school, work, and recreational behavior. This assessment includes a DSM-III-R diagnosis, and leads to referral for treatment which is then incorporated into conditions of probation. Unfortunately, services are not always available, especially for lower-income youth (Bruce, personal communication). Another program described by Davidson (1989) uses the concept of an "ideal treatment plan," based on assessment results. The plan documents gaps in services when available resources fail to meet the ideal plan, and then attempts to fill these gaps. Failure to locate needed services is a major stumbling block for administrators of several programs with whom we spoke.

The High Intensity Treatment and Supervision (HITS) program, described by Swann and other (1989), includes mandatory counseling not only for substance abusing delinquents but also for their parents, with the goal of "empowering" parents who have lost (or never had) control of their children. Its sponsors indicate that the problems facing these families are often multigenerational, and include issues around family boundaries and parental commitment to their children. They describe many of their clients as having very disorganized families, with about fifteen years' difference between generations, and minimal parenting skills. Swann and his associates acknowledge that their interventions may not help the delinquents with whom they work directly, but hope to have some effect upon the lives of their younger siblings. This program works with extremely difficult youth in an urban area, where substance abuse is often associated with violent crime.

Although some authors have questioned the appropriateness of court-ordered treatment for substance abuse problems (e.g., Speigelman, 1989), others have shown that even mandated treatment can be effective when some measure of decision-making is available to the adolescent. Our survey indicated that juvenile courts are an important source of referral to treatment in state-supported programs, second only to family members. When court and treatment personnel work together, case management becomes a crucial issue, and responsibility for monitoring progress must be clearly delineated. This is especially important when court-mandated sanctions may be imposed for failure to comply with treatment and thus, these sanctions must be understood by all parties involved.

Health Care Services

Medical personnel are in a unique position to identify substance abusing adolescents. Research indicates that adolescents who present for medical care are often in need of services beyond those they request (Fiedler, Lang, & Carlson, 1973). Brookman et al (1989) suggest that physicians should evaluate adolescents for a variety of "risky behaviors," including substance abuse, at routine, sports, or camp physical examinations. Unfortunately, other studies have indicated that health care professionals, without explicit training in identification of substance-abuse related problems, probably underestimate substance use among youth (Singer & Anglin, 1986). Although a 1987 American Medical Association survey of physicians indicated that most were willing to provide counseling and referral for adolescents with substance abuse problems (American Medical Association, 1987), other studies, conducted in research and teaching hospitals, indicate that both faculty physicians and their resident trainees were quite poor in identifying alcoholics among other medical patients (Anglin, 1989). In specifically addressing the ability of physicians to identify substance abusing adolescents, Singer, Petcher, and Anglin, (1986) found that concordance between physician's judgements and patient's self-reports of substance abuse were poorer than would have been expected by chance. These problems probably relate to resistance by both the physician and the patient. Physicians lack confidence in their skills at addressing these problems, and patients are likely to resist intervention (Anglin, 1989).

The Drug Abuse Warning Network (DAWN), an agency funded through NIDA, maintains records of substance abuse cases treated in emergency rooms in hospitals in selected cities throughout the country. Although this does not represent a random sample of hospitals, DAWN-affiliated facilities account for about a third of the U.S. population. DAWN statistics indicate that 14,360 adolescents (between ten and seventeen years old) were identified through this network in 1987. Of these emergency room admissions, 84 substance-related deaths were reported among adolescents. Despite the fact that the majority of these cases consisted of overdoses and that 67% acknowledged suicidal motivations for drug use, less than half of all adolescents who are treated in the emergency room for substance abuse problems are actually admitted as hospital patients, *even for extended evaluation*. The percentage of emergency room admissions associated with overdoses was highest for hispanic and black females (83% and 81%, respectively) and lowest for black males (41%). Use of drugs for non-recreational psychic effects (i.e., self-medication) was acknowledged by 6% of adolescents treated. Overall, less than one percent of adolescents presented with withdrawal symptoms, although among hispanic males, the percentage was slightly higher (1.7%).

These figures indicate, at the least, that certain medical personnel come into contact with substance-abusing adolescents at crucial moments, and that these opportunities to provide more extensive services should be taken quite seriously. Stephenson et al (1984) describe a brief intervention utilized in an emergency department of a university hospital, in which intoxicated adolescents were evaluated and observed closely for an extended period (ranging from several hours to, in a few cases, several days), interviewed extensively, and scheduled for follow-up appointments. The low recidivism rate for this high-risk group (twelve percent at six months) is described as indicating the value of "more than minimal" intervention at the emergency-room level, and similar programs, involving specially trained personnel, are recommended.

Mental Health System

The interface between the substance abuse system and the mental health system has a complex history. In most states, the oversight of substance abuse services is managed by the same office as mental health services. Insurance and group health plan coverage for substance abuse is often coupled with mental health coverage. Standards for substance abuse treatment in most states include involvement of psychiatrists and psychologists as well as other mental health personnel.

Given the documented incidence of mental health problems in substance abusing adolescents, the need for involvement by mental health practitioners seems clear (Harrison & Hoffman, 1989; Friedman & Glickman, 1987). Dual diagnoses require dual assessment skills. While it is important to have mental health practioners assist in the mental health assessment and intervention of identified substance abusers, it is equally important that these professionals have a basic knowledge of the substance abuse process and warning signs in order to detect the substance abuse treatment needs of clients who may present for mental health counseling only. Counselors, psychologists, social workers, and psychiatrists are among the many points of service contact for youth which can and should be used as sources of identification and referral. Such referral could be made to a substance abuse specific treatment setting, though integration of treatments for substance abuse with other mental health needs is often preferred.

Despite the historical relationship between the fields of mental health and substance abuse treatment, the involvement of mental health practitioners in substance abuse treatment has not always been regarded as positive. This is especially true in programs based on the self-help model, which has often rejected psychiatric interpretations of substance abuse problems (Sunshine & Wright, 1988). Involvement with the mental health system is not without stigma which many would prefer to avoid. While the disease model has been widely accepted, there is a great deal of difference in stigma and attribution between those who are thought to have a physical disease and those who have a mental illness. There is no doubt as to the difference in stigma and labelling resulting from a trip to a public health clinic and a trip to the mental health center. Even among those who advocate a disease model, there is no consensus as to the relative contribution of mental and physical factors. Thus, while a person may be said to have cancer, have the flu, or even have schizophrenia, a person is said to be an addict, or be an alcoholic. Generally, the involvement of the mental health system carries with it some baggage of attribution of personal fault, despite the best efforts of the field to dispel such characterizations.

General Problems and Issues

Although substance abuse is increasingly recognized as a cross-discipline issue necessitating an integrated and comprehensive response, there are some common barriers to such inter-agency coordination.

First, professional training and identity have implications for the process and content of intervention with adolescents. The same behavior exhibited by the same child may be interpreted differently by a physician, a teacher, a psychologist, a child welfare worker, and a probation officer. This interpretation leads to equally different understanding about the need and content of intervention.

Even when these same four professionals have a common understanding of the problem, they may place entirely different labels on the behavior and/or the child. Language barriers, professional jargon, variance in the definition of terms all inhibit communication across disciplines.

In addition, different systems have different responsibilities to honor. While the juvenile justice system may share a concern about the personal development of an adolescent with the school system, they also have a responsibility to protect society which is not shared by the school. While some goals overlap and allow integration of services, there are independent needs, goals, and responsibilities that may lead to conflict regarding appropriate intervention.

Funding of services remains largely categorical. While the advent of "wrap-around" funding reduces the separation of services, most budgets allow discrete funding for discrete services.

Professional territories are an unfortunate, though natural, barrier to service integration. As a matter of professional pride and commitment, not to mention ego and mistrust, it is not uncommon to observe situations in which representatives from different disciplines fail to interact with the respect necessary to insure coordinated action.

Relatedly, training programs rarely contain the cross-disciplinary emphasis required for such a broad perspective. Instead, training of professionals tends to be oriented along narrow guild interests which inhibit meaningful interchange among professionals.

Professional territories are not the only obstacle to integrated services. Geographic territories are not consistent. The catchment area for mental health services may or may not have any relationship to the jurisdictional boundaries for police departments or a private treatment center. Truly integrated comprehensive services can only occur for the subset of adolescents who lie in the geographic intersection of all participating service areas.

Eligibility criteria may vary across agencies. While one agency may serve all children aged 12 to 17, another may serve those aged 10 to 18 that come from families earning less than poverty level income.

Policies regarding confidentiality may inhibit the sharing of data which could be beneficial to a comprehensive service plan. In some cases, these policies are internally developed; in others they may be mandated by law.

Finally, comprehensive care requires a knowledge of the range of services, organizations and providers that exist in a given community. Unfortunately, this requirement suggests a "chicken and egg" problem, as little meaningful knowledge is likely to develop in the absence of active attempts at coordination.

None of these barriers are insurmountable. In cases where such coordination is sincerely desired, creative mechanisms have been developed to provide an integrated delivery plan. In the absence of sincere desire, the presence of an external incentive, such as money, has been shown to be an effective motivator. For instance, the Robert Wood Johnson Foundation's initiative to provide funding for coordinated comprehensive community action plans instigated an unprecedented amount of interaction among diverse community elements.

Self-help Groups

In addition to the above formal systems which may be the source or recipient of substance abuse referral, the self-help treatment system often acts as an alternative, or even more commonly, as an adjunct to professional treatment. Since the inception of Alcoholics Anonymous in the 1930's (Alcoholics Anonymous World Services, Inc., 1980) self-help groups have been an accepted means for dealing with substance abuse problems, and in fact are considered a treatment of choice by many professionals and non-professionals, and are incorporated into almost all professional substance-abuse treatment programs (Sunshine & Wright, 1988).

Self-help programs include programs for self-selected substance abusers, almost always in a group context, as well as programs for family members of abusers. Those that focus primarily on service to the abusers, such as Narcotics Anonymous, may serve as primary treatment on an outpatient basis, as adjunctive to formal inpatient or outpatient treatment, or as aftercare following more formal treatment. Programs that focus on service to family members, such as Al-Anon, Nar-Anon, or the groups for children of alcoholics, often involve co-dependency issues as well as, implicitly, prevention of initiation of substance abuse for nonusers at high risk.

Services

Self-help groups are most frequently organized around the 12-step model popularized by A.A., which makes a number of basic assumptions about substance abuse and its treatment. This model regards substance dependence as a chronic illness from which recovery is an ongoing, lifetime process effected only by total abstinence. The program involves acceptance of the illness as an irreparable aspect of one's life, acceptance of one's powerlessness in the face of the illness, acknowledgement of the havoc wrought upon oneself and others by the illness, efforts at making amends for such damage, and commitment to continuing the recovery effort and helping others. A strong spiritual component is essential in the 12-step program.

The traditions of the 12-step programs for adults include the idea that participation be entirely voluntary and reflect the addicts recognition of their own having "hit bottom," or reached a point of despair, as a result of substance use. In practice, however, adolescents are often required to attend AA or NA (Narcotics Anonymous) or similar groups. Adults affiliated with these programs suggest that the denial and grandiosity characteristic of adolescence may prevent young people from attending groups voluntarily, at least at first. Additionally, adults speak of "raising the bottom," rather than allowing adolescents to actually reach a point of self-destructive despair (Keller, personal communication).

Peer support is a primary aspect of the self-help group approach. Most AA and NA groups include a "sponsor" system in which each recovering addict is paired with a more experienced partner, who is available for crisis intervention and emotional support. The meeting format usually involves "testimonials" or first-person accounts of drug and alcohol problems and recovery from them. These testimonials help participants feel less alone, as well as providing inspiration for further recovery. Because of the disease-model approach to addiction to which these groups subscribe, participants do not refer to themselves as "recovered" at any time, but describe themselves as lifelong "recovering" addicts.

The traditions of informality and anonymity are cited as reasons which preclude an effort by AA or NA to identify characteristics of groups along age, ethnic, or other specifications. In some cases, groups spontaneously form around particular populations (eg., gay and lesbian groups, black groups, Hispanic groups, and high school groups), but these designations are not part of the structure of the program. In fact, all groups remain open to any interested participant. Although anecdotal reports about these groups are often available, long-term statistics regarding the success of participants are limited.

Utilization

As of 1986, their most recently available survey, Alcoholics Anonymous included approximately one and one-half million participants. At that time, about 3% were under the age of twenty. This amounts to approximately 47,000 adolescent participants. Although the organization is deliberately informal and anonymous and does not keep membership or participation statistics, their national office suggests that participation by adolescents has been increasing in recent years, at least in part because the increasing affiliation of formal treatment programs with the AA model.

It is suggested that adolescents in their mid-to-late teens are likely to attend two or three meetings per week, slightly fewer than adults (Alcoholics Anonymous World Services, 1987). AA's survey also indicates that adolescent alcoholics are also far more likely than adult alcoholics to also consider themselves addicted to other drugs. As many as 80% of AA members in their late teens describe themselves as drug addicts as well as alcoholics. By comparison, only 30% of AA members aged 40 describe themselves as being addicted to other drugs (Alcoholics Anonymous World Services, 1987).

NA indicates that its "fellowship" of participants is generally younger than that of AA, with most between the ages of sixteen and forty, and approximately 10% under the age of twenty. Current estimates, which are admittedly informal, indicate that about 18,000 adolescents under the age of twenty participate in

NA meetings annually (Narcotics Anonymous World Headquarters; interview by the authors). These numbers vary according to geographical distribution, with a larger percentage located in urban centers possessing formal adolescent substance abuse treatment programs. NA is currently initiating its first formal survey of participants to clarify age and geographical distributions.

Access

Although AA and NA were originally organized around a tradition of self-referral, other professionals are increasingly involved in facilitating involvement with these groups. By 1986, more than a third of all AA members were referred by counselors or rehabilitation programs. The survey suggests that "this phenomenon shows a strong age dependence, with rehabilitation settings and counselors assuming greater importance below age 30" (Alcoholics Anonymous World Services, 1987). The extent of this difference is not specified.

Effectiveness

AA and NA have traditionally been resistant to rigorous research studies, primarily as a means of protecting the confidentiality and anonymity of its membership. However, AA's own survey of its membership indicated that 67% of its members have been sober for more than one year (Alcoholics Anonymous World Services, 1987). This number is likely to be lower among adolescents, who are more likely to be involved in AA as a part of treatment or immediate aftercare.

Clinical Services

Formal treatment services for adolescent substance abusers fall into four general categories. First, and least specific, are the traditional mental health services offered in settings such as private practices and community mental health centers. Second, outpatient programs which focus directly upon substance abuse services provide some additional structure and more specific treatment paradigms but include few external limits such as locking of doors or removal of privileges.

Third, residential settings such as halfway houses remove the youngster from his/her previous environment and offer a living situation and therapeutic milieu, but without the medical structure of a hospital setting. Some residential programs are locked so that residents may not leave the unit without escort while others are not. Some include provisions for the residents to earn privileges (such as moving to an unlocked unit) though successful participation in the program.

Finally, inpatient programs provide a restricted environment with medical support and a highly structured program for detoxification and beginning treatment. These may be offered in freestanding substance-abuse treatment facilities or as units in psychiatric hospitals or general hospitals. In some instances, adolescents with substance-abuse problems are treated in general psychiatric units, although these cases are difficult to document. In recent years, the variety and number of adolescent substance abuse treatment programs has increased rapidly, especially inpatient and residential programs in the private sector. Some programs offer integrated services, beginning with highly structured inpatient services for a period of several weeks, followed by residential services while lifestyle changes are solidified, then outpatient aftercare and occasional referral for long-term individual or family psychotherapy to continue to resolve deeper concerns.

Assessment

The first step of clinical services is likely to involve some form of assessment. When referral has been made from an external source, the formal or informal assessment of the referring agency may be accepted as a basic screen regarding the need for services.

Identifying consistent measures for determining severity of substance abuse is important for several reasons. Such information could be of use in making treatment setting decisions and creating individual treatment plans, though (as will be discussed) this is not often the case. In addition, data on the behavior of individuals prior to treatment is critical for assessing the effectiveness of treatment and comparison of program efficacy.

Such assessments are conducted at the point of entry into a treatment program. Traditionally, screening adolescents for substance abuse problems has occurred in a somewhat haphazard manner. Some procedures have been adopted from the literature regarding adult alcoholism (eg., "Do you ever drink before breakfast?"). Many treatment facilities utilize a structured interview in which adolescents and their parents are questioned about lifestyle changes and emotional reactivity. Substance abuse is sometimes inferred from these factors, especially when presented in conjunction with any admission of substance use by the youth.

Most assessments of substance abuse rely on self-report, using measures which have been developed in-house with little or no validity indices or attention to other psychometric properties. These measures have certain elements in common, such as questions regarding onset, a quantity/frequency index, and questions about experiences such as hangovers and blackouts.

Data provided by such interviews, however, have certain implicit difficulties. Adolescents (and adults) are often assumed to underestimate their intake considerably. One common clinical rule of thumb is to multiply the acknowledged consumption by four, while some clinicians suggest a factor of seven. Even disregarding the tendency of substance abusers to minimize their use, self-report data is always suspect simply because people have the greatest difficulty in remembering the details of their most frequent and habitual activities.

Moreover, without greater standardization of interview schedules, results are difficult to compare across programs or even across subjects. This failure to use standard measures is primarily due to a general lack of validated measures for use with clinical populations (Winters and Henley, 1988). Most of the instruments that have been developed to evaluate substance use patterns with adolescents have been research instruments developed for epidemiological purposes and used with the general population.

A few clinical instruments have been developed for use with adult substance abusers, and these are sometimes used with adolescents despite extremely limited support for doing so (Nelson, et al, 1986). Use of measures with a population clearly unlike the group for which they were developed is a questionable practice (Ghiselli, Campbell, and Zedeck, 1981). In addition, norms for adolescents are not always available. One such example is the Alcohol Use Inventory, which includes measures of consumption but also includes irrelevant factors such as marital discord.

Many of the specific scales were developed for use with alcohol abusers (e.g., the Adolescent Alcohol Involvement Scale, Mayer and Filstead, 1979), and their use with other substances is based on the assumption that the dependency process with other chemicals parallels that with alcohol. The Addiction Severity Index (ASI) is a more comprehensive measure which provides information regarding severity of substance use as well as sociological and behavioral information related to family, employment, medical, and personality factors. The ASI was developed as a diagnostic and treatment planning tool specifically for adolescents (Erdlen, McLellan, & LaPorte, 1978). The Youth Diagnostic Screening Inventory (Alibrandi 1978) is a similar, though less comprehensive scale.

Winters and Henley (1988) have developed a two-part instrument to assess the extent and severity of chemical abuse (the Personal Experience with Chemicals Scale) as well risk and maintenance factors (the Personal Experience Scale). These scales are somewhat more comprehensive and psychometrically sophisticated (for example, validity indices are included), however, the authors caution that it should be considered an adjunctive measure in a comprehensive assessment battery.

Appropriate assessment with adolescents in treatment must address several other relevant areas. In addition to the frequency and quantity of substance use, circumstances such as age of onset, recognizable precipitants of use, other psychological difficulties, educational status, peer attitudes, family attitudes, and effect on current functioning are all important characteristics which impact upon treatment needs and predicted success.

For example, since family structure and dynamics are involved in both risk assessment and treatment success, measures of family environment may provide valuable adjunctive information. Several instruments have been developed for this purpose. These instruments are not specific to substance abuse, but may provide useful information. The Family Adaptability and Cohesion Evaluation Scales (FACES-III) (Olsen, et al, 1985) and the Family Environment Scale (FES) (Moos, 1974) have been recommended for use in evaluating families and provide information regarding factors such as cohesion, flexibility, and goal orientation, which have been associated with substance use. Such measures would be particularly useful when family therapy is a component of treatment and changes in family functioning would be an index of success.

Standard psychological assessment batteries may be valuable in providing information regarding intellectual functioning and personality dynamics. These may be important factors for substance abusers, especially since adolescent substance abusers often have histories of academic difficulties and emotional difficulties such as anxiety and depression. Some standard tests include indicators of substance abuse. For example, the Minnesota Multiphasic Personality Inventory (MMPI), one of the most frequently used diagnostic tests, includes a scale for substance abuse (the MacAndrews scale) which has been found to be a valid index for adolescents. Using information from tests such as the MMPI or projective techniques is especially important when dual diagnosis is known or suspected, so that appropriate psychotherapeutic treatment is provided when needed.

Dual diagnosis is an increasingly important issue in substance abuse treatment. In the past, substance abuse was often viewed as a single or primary diagnosis, and treatment was

Of further concern is that even if assessment procedures were dramatically improved, there is little evidence that differential treatment strategies actually exist in most settings. Treatment for substance abuse seems quite uniform, with rather rigidly scheduled activities and little individualization. Even when comprehensive assessments are undertaken, it is unclear how these data are used in program development. For example, it may be quite interesting to document the specific substances abused by each adolescent in a program, but the current state of the art in substance abuse treatment does not often include specialized treatment for different drugs of choice (e.g., cocaine abusers versus hallucinogen abusers). This is unfortunate, especially since the choice of substance for abuse may be quite significant in terms of individual dynamics and, consequently, treatment needs. Most literature, and most program statements, note the need for individualized treatment. "Client -treatment matching" is described in the literature as an important reason for advancing research in this area. However, given the current data available, it is questionable that more than one basic treatment exists with which individual client needs can be matched.

As more comprehensive information becomes available regarding factors contributing to treatment success, these may be incorporated into assessment measures. For instance, it has been shown that earlier onset of substance use is associated with poorer outcome. Onset age, then, is an important variable for assessment. With this information, special precautions (especially of the types known to enhance effectiveness) might be instituted for youth whose substance abuse began relatively early. Similarly, assessing family history for substance use might lead to inclusion of special treatment groups for COAs. Interviews with treatment providers and observation of intake assessment protocols indicate that these two variables (age of onset and familial history) are usually assessed. Further research on pre-treatment factors should also inform not only the intake assessment process, but the plan and course of treatment.

Traditional Mental Health Services

Many professionals, including psychiatrists, psychologists, social workers, and nurses, often deal with adolescent substance abusers as an integral part of their therapeutic endeavors, but may not consider themselves specialists in substance abuse and frequently have only limited specific training in this area. In some cases, these professionals are general psychotherapists with little training in the treatment of children, adolescents, and families. Adolescents who enter treatment in this way are often exhibiting emotional problems well beyond the limits of substance abuse, and are brought to treatment with little awareness on the part of the youngster or his family of the extent of the substance abuse problem.

In some cases, alleviation of the underlying issues is sufficient to reduce substance abuse appreciably. This is most likely to be the case when substance use was a direct effort on the part of the client to obtain relief from anxiety or to divert attention from pathological family dynamics. However, in many cases, substance abuse has progressed to the point that indirect treatment is impossible and, in fact, reinforces the denial of the client and family. Increasingly, private therapists are recognizing these issues and are considering the adolescent's substance abuse to be the initial focus of treatment. When this is the case, referrals may be made to specialists, to comprehensive treatment programs, or to support groups such as AA or NA. Many private therapists in this position make continued psychotherapy contingent upon participation in these adjunctive programs. This approach reflects two widely accepted clinical theories. The first is that the denial or suppression of emotional difficulties via chemicals limits access to the very difficulties and emotions with which psychotherapy is effective. The second is that the stresses associated with confronting these problems pose a distinct threat to the abuser's poorly integrated coping skills, and that this emotional overload may lead to a relapse of substance abuse (Margolis, personal communication; Mahon, personal communication).

Because of the diverse nature of services provided in traditional mental health settings and because of limited data maintained by private therapists, it is extremely difficult to evaluate how frequently substance abuse treatment occurs in this context or how effective it is likely to be. Only a few practitioners indicate that they consider substance abuse, a major focus of their practice. For example, a poll of the American Psychological Association indicated that only 1200 of its members specialize in substance abuse. Half of these psychologists practice in hospital or clinic settings. Only 78 of these specialists work in the survey setting category which included military, government, and private practice. It is safe to assume that very few private practitioner psychologists consider substance abuse a specialty. Only nineteen psychologists in any setting considered adolescence and substance abuse to be their top two areas of specialty.

Little research is available regarding the efficacy of individual therapy for substance abuse, and that which has been done has focused primarily upon adult substance abusers. These studies suggest that traditional psychotherapy with substance abusers is often a slow process with limited results. Efforts have been made to evaluate the effectiveness of family therapy with adolescent substance abusers. The indications are that outpatient family therapy can be an effective treatment and can be considered a cost-effective alternative to hospitalization (Friedman, in press). Friedman states that "the family therapy modality is particularly effective for effecting change in the relationship between the parents and their drug abusing offspring," and breaks a "vicious cycle" which has supported drug abuse by the adolescent (p.21). Previous studies cite a similar rationale for the efficacy of family therapy in the treatment of adolescent substance abuse (Fishman, Stanton, and Rosman, 1982), and suggest the use of strategic (highly directive) and structural (focusing upon the distribution of power and cohesion in the family) interventions in particular (Szapocznik et al, 1988).

Outpatient Treatment Programs

Outpatient programs associated with both publicly funded and private organizations are increasing in availability in recent years. These programs very widely. Publicly funded outpatient programs are often associated with community mental health facilities. Their funding is frequently extremely limited, resulting in restrictions upon available services. Given that adjunctive services such as recreation therapy, social skills building, and problem-solving therapies have been shown to significantly enhance the effectiveness of substance-abuse treatment among adolescents (Friedman & Glickman, 1986), these restrictions may diminish program effectiveness.

Outpatient drug-free programs (OPDF), as these are frequently called, are oriented around counseling rather than medical intervention. In the case that medically managed detoxification is considered necessary, such an intervention is handled first in another setting. Otherwise, medications are rarely used. Such services are relatively rare in outpatient settings as shown in Figure 1.

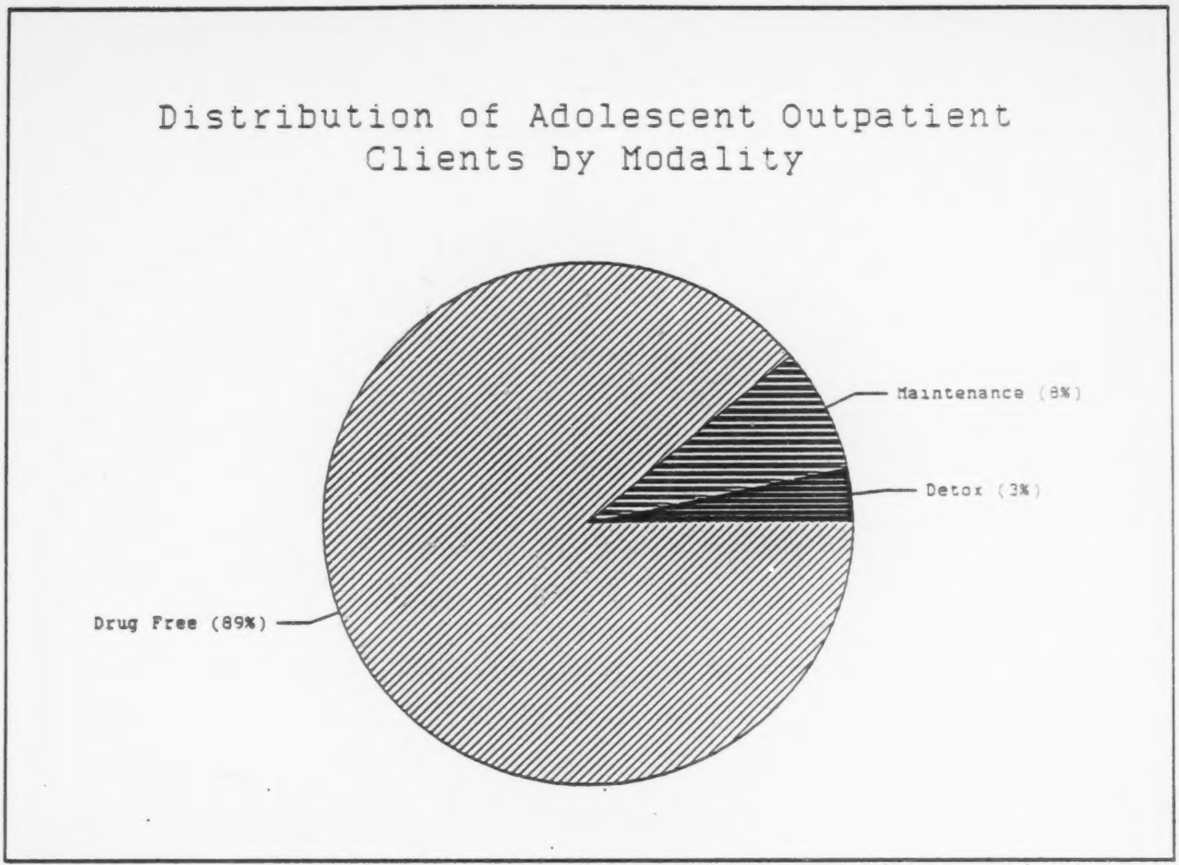


Figure 1 Distribution of adolescent outpatient clients by modality (data estimated from NDATUS, 1989).

OPDF programs almost always include group therapy and access to self-help groups such as N.A. and A.A. (Hubbard et al, 1989). Group therapy is most frequently oriented around confronting the denial associated with substance abuse and beginning to acknowledge the need for help, as well as learning to express uncomfortable feelings and utilize peer support. Many publicly funded programs are limited to these types of services, most often as an offshoot of adult substance-abuse services. They operate on an after-school basis, open several days weekly. If funding, staffing, and physical space are available for more comprehensive services, they often include more detailed psychological and medical assessments. These assessments include individual therapy to focus on specific conflict resolution, activity therapies such as art therapy and recreation therapy, to provide challenge and new modes of self-expression, family therapy to change dynamics which serve to support chemical abuse by other family members, and education or vocational assessment to aid in life planning and skills development (NAATP, 1989). Some programs are integrated with other health service delivery of interest to adolescents, such as family-planning services and nutrition counseling (Bearinger & McAnarney, 1988). Others are part of comprehensive youth-service centers and provide substance abuse counseling along with a variety of health, educational, and recreational services (eg. The Door, Unitas as described by Freidman and Beschner, 1989).

The Cleveland Criteria (Hoffman, Halikas, & Mee-Lee, 1987), which present model standards for admission, treatment, and discharge, include three levels of outpatient care. "Low - intensity outpatient treatment," is described as a "brief, defined program" involving educational and therapeutic activities and frequent assessment. Examples include weekly group or individual therapy and extended weekend sessions. "Intensive after-school treatment" is described as "a structured after-school environment three or more days per week" and includes greater family involvement, a broader range of therapy modalities with at least two different modalities per day (eg., psychotherapy and recreational therapy on one day and family therapy and educational group on another day), and an interdisciplinary team approach.

The most intensive outpatient programs are day-treatment programs, in which the client arrives early in the day and returns home only in the evening. The Cleveland Criteria suggest that these programs be considered when separation from the peer group is necessary, and educational services are added to the services described above. Parental involvement is considered "mandatory" when available. "Adolescent structured all day treatment" programs function very much like inpatient programs, with highly structured activities available throughout the day, on-site educational services, and a variety of therapeutic groups for the client and the family. They assume sufficient motivation on the part of the client and family that treatment is continued without the coercive element of locked doors, and sufficient impulse control on the part of the adolescent client that substance use is avoided during "free" time when not in the program. Family therapy is generally part of the program, with the emphasis placed upon helping the family to support the youngster's participation.

In all outpatient programs, urine drug screens may be included in order to assess the youngster's response to intermediate structure. Outpatient programs often serve as early aftercare services for inpatients, providing an intermediate step before the youngster returns home to the environment in which the problems initially developed. Although some of these programs are available to low-income youth, they are frequently associated with private for-profit organizations, and can be quite costly. Some are non-profit programs funded largely by contributions and grants. Community mental-health centers also offer outpatient treatment as a cost-effective alternative for low-income clients. One estimate suggested that about thirty percent of such programs are associated with community mental-health centers (Hubbard et al, 1989).

Many programs which are advertised as private outpatient programs are, in reality, aftercare programs for former inpatients in affiliated programs and are rarely recommended by in-house "evaluators" for new clients. These programs often then serve as a transition between hospitalization or residential treatment and community living (Bailey, 1989). Until very recently, many treatment experts believed that inpatient treatment was necessary for adolescents, and outpatient care was recommended only when financial limitations necessitated (for example, Sunshine and Wright, 1988). Service providers and insurance organizations suggest that because third-party funding has become more restrictive for inpatient care, however, more outpatient facilities are opening and accepting adolescents for primary treatment.

Settings. Public outpatient treatment centers may be free-standing facilities (although these are rarely specific for adolescents) or they may be associated with community mental health centers or with hospitals. Specific space allocations vary widely, from a single room available at specific times, to small clinics with medical and laboratory facilities. When space is extremely limited, some services (eg., individual therapy) may be referred to a more comprehensive mental health center.

Private outpatient centers are often affiliated with hospitals or residential treatment programs, and may be housed within the residential program building or in a free-standing facility near the "parent" center. They often include large rooms for group therapy and smaller areas in which assessment, individual, and family sessions take place. Privately-funded programs which are not associated with residential programs may be affiliated with other mental-health programs or housed separately in office buildings.

Staffing. The staffing requirements for outpatient programs vary widely, partly because of the variety of setting in which these programs are found. Public programs, often located in community mental health centers usually include staff with certification in mental health fields, including psychology, social work, or, most often, psychiatric nursing. The percentages of staff certified in psychology or social work is higher in OPDF programs than in other settings, and is often relatively stable in employment. In outpatient programs, the majority of counselors are not described as ex-addicts, in contrast to other treatment modalities (Hubbard et al, 1989).

Depending upon funding available, specialists in substance abuse may be available to facilitate groups such as twelve-step groups or educational groups, focusing on the disease model of addiction or on behaviors which reduce the likelihood of relapse, for the adolescents and their families. In cases involving dual diagnosis, individual psychotherapy, usually provided by masters' level staff in psychology, social work , or nursing, is also provided.

Administrative personnel report that in many cases, due to funding limitations, one staff member may provide several different services. We interviewed one director who reported that one staff member, borrowed part-time from the adult substance-abuse program, was actually the provider for the entire adolescent substance abuse program.

Privately funded programs have somewhat more flexibility regarding staffing, and staff responsibilities may be more specifically designated. For example, one staff member, possibly with a bachelor's degree in a human-service field, may handle intakes while another, frequently a former substance abuser, may facilitate twelve-step groups, while still another staff member with an advanced degree in psychology, social work, or nursing, is available for family counseling or therapy group facilitation.

Within drug treatment outpatient programs in which at least 75% of the clients are adolescents, there are approximately 20 clients per counselor. Each client has approximately 1.7 scheduled appointments per week (NDATUS, personal communication).

Utilization. As of October, 1987, approximately 66,252 youngsters under the age of 18 were participating in outpatient substance abuse treatment (NDATUS, 1989). These outpatient clients accounted for 86% of all adolescent clients in treatment on the date of the survey. This percentage is slightly higher for drug abuse clients (87%) than for alcoholism clients (83%), as shown in Figures 2 and 3.

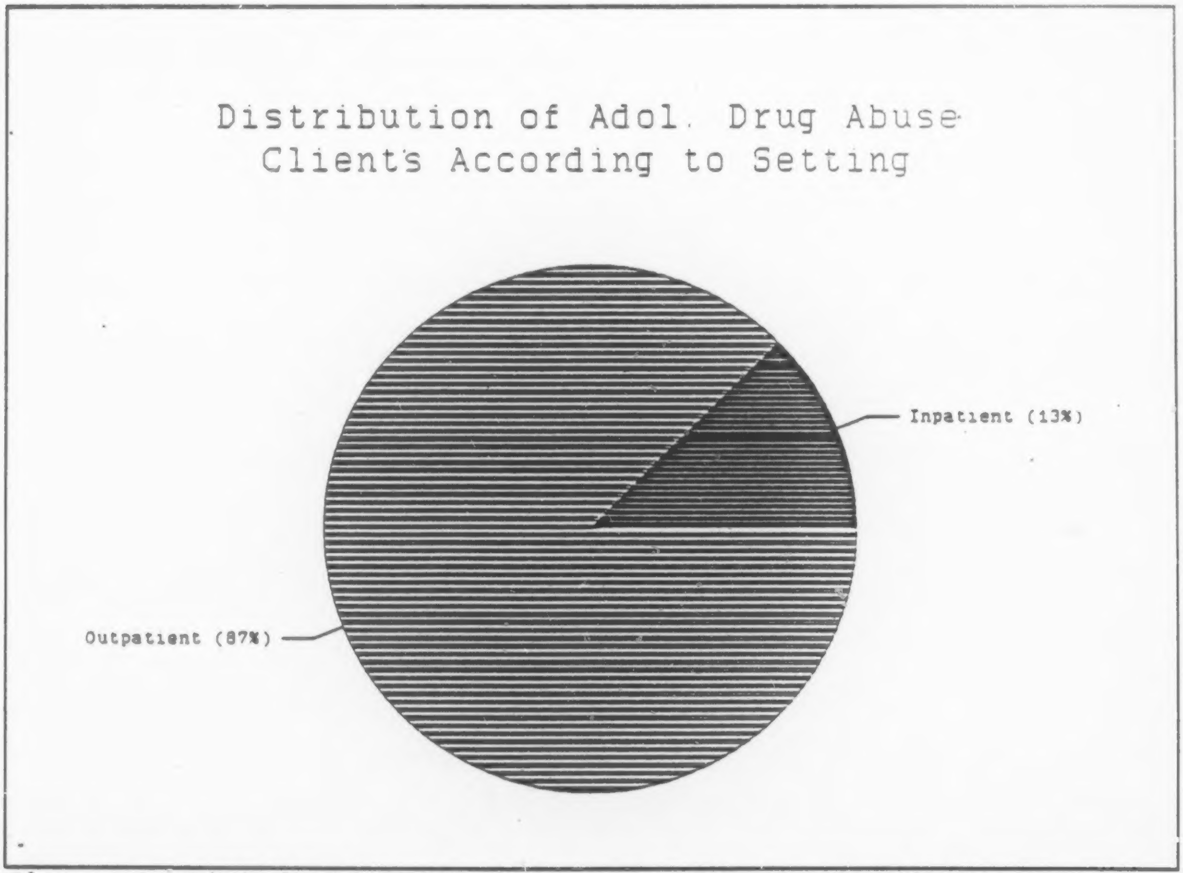


Figure 2 Distribution of adolescent drug abuse clients according to inpatient-outpatient setting (data estimated from NDATUS, 1989)

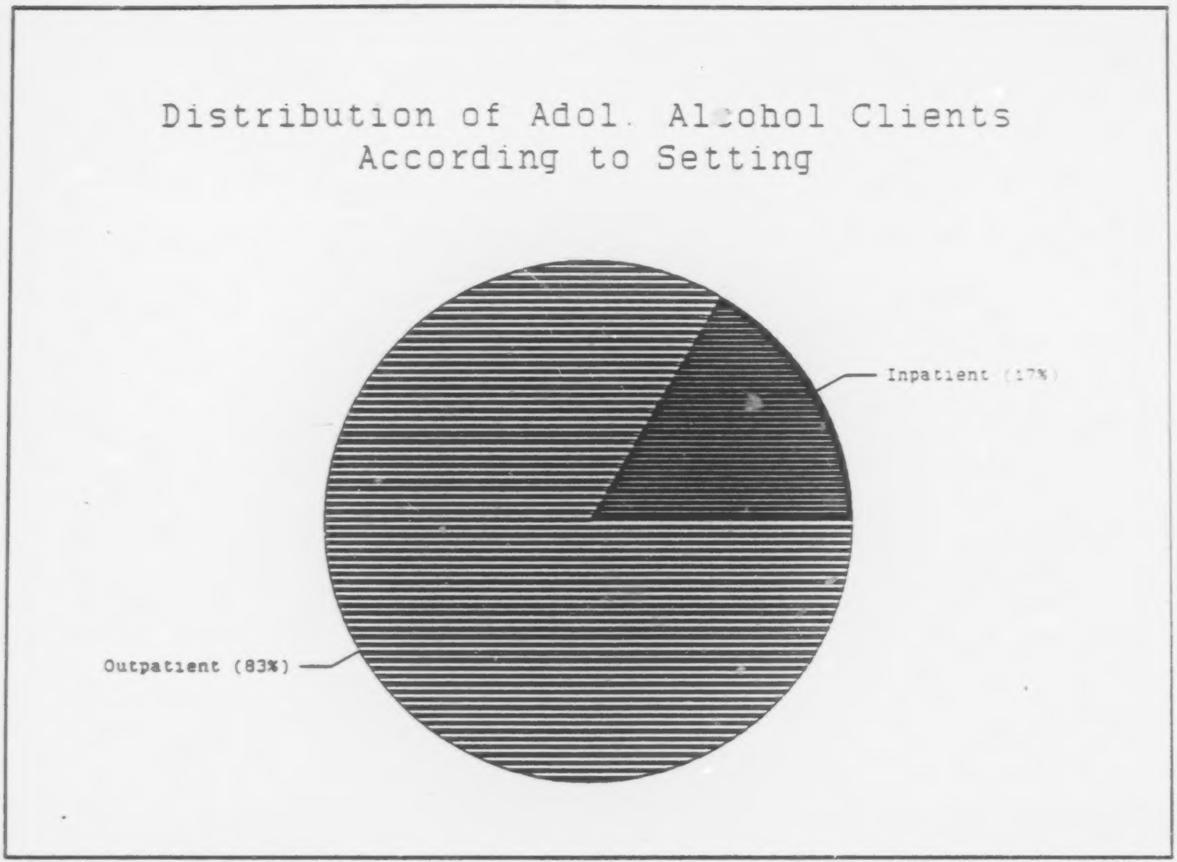


Figure 3 Distribution of adolescent alcoholism clients according to inpatient-outpatient setting (data estimated from NDATUS, 1989).

Alcoholism clients accounted for 35% of all outpatient adolescent clients. The remainder were treated primarily for the use of other drugs (see Figure 4).

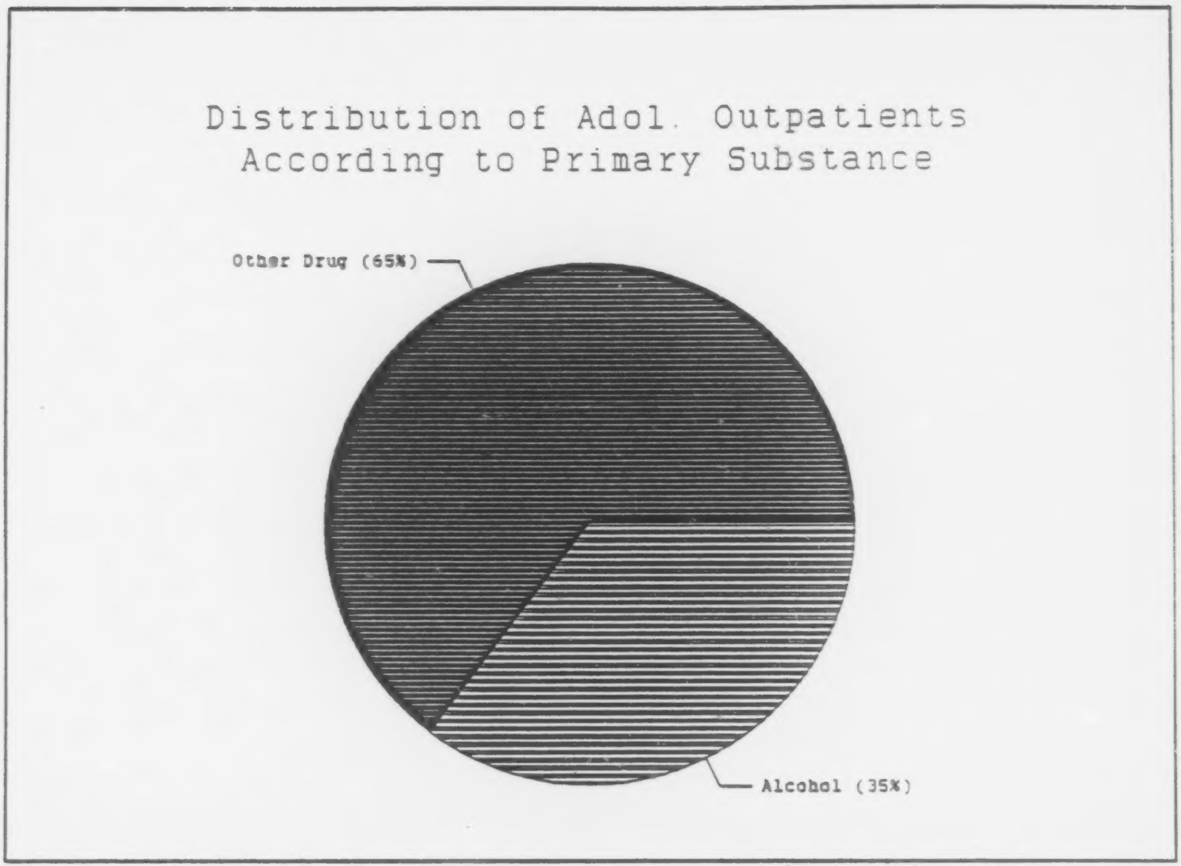


Figure 4 Distribution of adolescent outpatient clients according to primary substance (data estimated from NDATUS, 1989)

Outpatient units operated at about 80% of capacity, averaged across outpatient settings for all age groups.

While adolescent-specific data is not available by setting and gender, 72% of all outpatient substance abuse clients were male, as compared to 76% of inpatient clients.

Whites accounted for 66% of all outpatient clients, while 19% were black and 13% were hispanic (NDATUS, 1989).

Modality data were available from NDATUS by unit, not by client. Within units serving at least 75% adolescents, the vast majority (99.3%) of outpatient drug abuse clients received a drug-free modality, as opposed to detoxification (.1%) or maintenance (.6%). Similar data for alcoholism treatment would be meaningless because the vast majority of adolescent alcoholism clients are served in settings in which adolescents form a minority of the population (NDATUS, personal communication).

Residential Programs

This category includes a wide range of service delivery settings, including therapeutic communities, halfway houses, and wilderness-challenge programs. Some residential treatment programs differ from hospitals primarily by excluding specific medical facilities. On most other dimensions, they resemble inpatient units and in many cases, the distinction is quite difficult to make. Licensure and certification standards for hospitals, for example, may require specific types of laboratory facilities or medical emergency equipment. If these are not available, a program is designated "residential" rather than "hospital." Some facilities which are officially considered residential treatment actually call themselves, and are known in the community as, hospitals. Because of variations in definitions cited in the literature, it is difficult to distinguish between these types of programs. Problems in describing and evaluating these programs are compounded by the great variety of programs subsumed under this category.

Residential programs, as a whole, are more comprehensive and more restrictive than outpatient programs, and offer specific services not available in outpatient settings. One is the removal of the youngster from the family and/or peer environments that have encouraged, or at least failed to prevent, substance abuse. Numerous studies have indicated the substantial impact of these environmental groups upon adolescent substance abusers (eg., Hawkins et al; Needle et al 1988). This limits access to drugs, as well as offering, presumably, a more positive environment in which the youngster can deal with his or her substance abuse. (The value of this has been disputed by, among others, Fillmore (1988), who suggests that clients in these settings are merely exposed to other problem youngsters and are actually among an even more malignant peer group then their home environment included.)

The second difference between residential and outpatient programs is that the former offer twenty-four-hour supervision, both by trained adults and, often, by recovering peers. This provides a situation in which immediate confrontation of substance-abusing or other self-defeating behavior can be immediately addressed. Finally, they offer respite for both the adolescent and his/her family, which can be essential in the extremely tense family environments of troubled adolescents.

Residential programs are commonly oriented towards goals of resocialization of clients, with emphasis placed upon abstinence from substance use and re-establishment of relationships within the family and with other social institutions. Although the original residential treatment programs (e.g., Synonon, Daytop Village) were developed around a long-term treatment model with goals of "complete resocialization," many facilities now offer shorter treatment (three to six months, instead of twelve to fifteen) and somewhat more modest goals, such as developing basic skills for an effective drug-free lifestyle (Hubbard et al, 1989).

Setting. Residential programs are most frequently found in free-standing facilities. Many residential programs include locked units, are staffed by nursing and counseling staff very much like psychiatric hospitals, and include structured daily routines, including a variety of educational and therapeutic groups, much like those provided in hospitals. These operate essentially on the 28-day model, with a high level of structure in the initial stages and diminished structure as the client earns privileges through program participation and responsibility. Some of these residential programs include an outpatient component and thus provide part of a continuum of care.

Some residential programs utilize a halfway house model, where the youngster lives under intensive supervision but is able to maintain participation in public school and extracurricular activities. Halfway houses are often staffed by a live-in couple who serve as "teaching parents" and provide structure and nurturance for the residents. These facilities often include initial restrictions which are loosened as the resident "earns points" by taking care of personal and household chores. They may also include regularly scheduled groups and meetings focused on interpersonal interactions and on individual goals. Actual service delivery in these settings may vary extensively, and monitoring of halfway houses is often quite haphazard. Some are developed specifically as substance-abuse treatment settings, and others are simply homes for troubled youth in which substance abuse is addressed along with a range of other problems. Some include extensive psychiatric services and a broad therapeutic regimen of groups and activities, similar to a comprehensive day-treatment program while others are largely homes in which adolescents are provided with a relatively stable environment.

Some halfway houses utilize a therapeutic community model as described above, with the residents responsible maintaining the administrative and therapeutic functioning of the facility. In residential programs using the therapeutic community model, less emphasis is placed on specific forms of therapy and more on global changes in conduct, feelings, values, and attitudes (De Leon and Deitch, 1985). For example, changes in recreational activities are addressed by the community as part of the larger picture, rather than on an individual basis by a recreational therapist. In these settings, household responsibilities and privileges are often assigned based on seniority and success in the program, providing motivation for continued participation. Although this model has been utilized extensively with adult substance abusers, it is less commonly available for adolescents. Among the few effectiveness studies available regarding this modality is a study comparing two different half-way house models (Braukmann et al, 1985). This study indicated that group homes using the "teaching-parent" model, which utilizes a trained couple as houseparents who provide educational and therapeutic services as well as supervision, reduced substance use (as well as other delinquent behaviors) more quickly than other group homes during treatment. While differences in substance abuse were insignificant at one-year follow-up, differences in other prosocial behaviors remained notable.

Other "residential" settings are offered in wilderness-camp type settings, in which a group of adolescent clients and counselors live together in a "primitive" environment, in which the clients learn, as a group, to provide themselves with basic amenities for comfort and productivity. In some cases, these wilderness components are offered as an adjunct to other residential treatment programs (Sunshine and Wright, 1988; Gaus and Henderson, 1985).

These programs often incorporate aspects of the "Outward Bound" model, in which personal challenges include mastering unfamiliar environmental conditions and learning survival skills. In these cases, the isolated geographic location of the program serves much the same function as locked doors and running away is discouraged.

These programs usually serve relatively small groups. In many cases, they are not specific to drug abuse. They are often offered to adolescents who demonstrate a range of antisocial behaviors,include a variety of troubled youth, working together to develop prosocial bonds and enhance self-esteem by learning basic, concrete skills.

Wilderness camps often operate on the therapeutic community model, in which all community members (both clients and staff) are equally involved in group decisions, and equally responsible for the progress of the individuals and the group as a whole. The members are responsible for mastering basic survival skills and contributing to the welfare of the group as a whole. The generalizability of these new behaviors to the community at large has been questioned. Furthermore, because of the isolated environment in which they operate, they are difficult to monitor. Since they rarely utilize a medical model or consider themselves "hospitals" or "treatment," they are not always subject to the types of licensure and certification required for other facilities. Studies of these programs, unfortunately, are more often descriptive than evaluative, and information regarding their overall effectiveness, especially as related to substance abuse, is quite limited.

Staffing. Given the wide range of programs considered "residential" programs, staffing requirements vary widely. Most programs are administered by persons with advanced degrees in psychology, education, or social work. Some include medical personnel such as psychiatrists or addiction specialists (MD's specializing in addiction, and certified by the American Society of Addictive Medicine), at least on a consultant basis.

In the most structured settings, professionals are available for therapeutic services and paraprofessional staff provide milieu therapy and supervision of client activities. This may follow a traditional medical-model approach, with physicians providing medical services, psychologists providing assessments, social workers managing family interactions, and ward staff (known variously as technicians, mental health assistants, staff counselors, etc., and usually supervised by nurses) responsible for day-to-day supervision of activities.

The employment of "recovering" substance abusers -- former drug users who continue to participate in twelve-step programs --in these staff positions is quite common. Some states provide guidelines for certification of specialized substance-abuse counselors without requiring advanced degrees in mental health fields (National Association of Drug and Alcohol Counselors, 1989).

In-house schools are almost always staffed by special-education teachers and follow state guidelines for such services. Specialized services may include occupational therapy and recreation provided by generalists or specialists, depending on funding.

Wilderness programs often include professional staff at administrative levels and as program consultants, with paraprofessional counselors providing day-to-day supervision of activities. Staff in these settings are often dedicated but minimally trained. Most have bachelor's degrees or other mental health experience, but few have advanced training in working with youth or with substance abuse. Halfway houses are similarly staffed, often by college or graduate students who benefit from the experience and the availability of on-the job housing. In the teaching-parent model, halfway houses often employ married couples, one of whom also may work outside the program, as houseparents.

Utilization. Interpretation of the available data regarding residential programs is difficult, due to the tremendous variation in services described above. In the 1989 NDATUS report, 988 reporting programs described themselves as halfway houses (348) or non-hospital residential centers (640). How many of these programs served adolescents was unknown.

Residential programs were serving approximately 2818 adolescents for drug abuse in October, 1987. This represented 13.4% of all residential clients for drug abuse (NDATUS, 1989). Similar data is not available for alcohol abuse treatment. However, assuming that the percentage of adolescents in residential settings for alcohol treatment is equal to the percentage of adolescents receiving any alcohol treatment (as is the case with respect to drug abuse treatment), approximately 1059 adolescents would have been in non-hospital halfway houses or other residential settings in October, 1987.

Approximately 74% of all clients were male, reflecting a common trend towards broader services for male substance abusers than female. This trend has been demonstrated for adolescents as well as adults (Noble et al, 1989), and most likely reflects differences in service availability and social expectations rather than differential need. Approximately 53% of all clients were white, 30% black, and 15% Hispanic.

Hospital Settings

Hospitals provide the most comprehensive range of services, because the include medically managed detoxification services with medication as a part of treatment. Although medically managed detoxification is less frequently necessary for adolescents, such treatment is necessary when signs of acute intoxication or withdrawal are present (Hoffman, Halikas, and Mee-Lee, 1987, NAATP, 1989). Hospitals include a range of medical services and an interdisciplinary staff, almost always including psychiatrists, psychologists, social workers, nurses, and, frequently, specialists in substance abuse.

Inpatient treatment programs for adolescent substance abusers are available in a variety of settings, including independent hospitals treating only addictions, psychiatric hospitals, and general hospitals. Although inpatient treatment for adolescents is available in most states, there are relatively few publicly funded programs specifically for adolescents. This is particularly true with respect to treatment of adolescents for alcoholism. More than one-half of all adolescents treated for alcoholism are treated in settings in which they constitute less than 20% of the client population (NDATUS, 1989). In recent years, a number of private hospitals have opened adolescent treatment programs, and many psychiatric hospitals now include specialized units for substance abusers.

Adolescents in hospital settings are often "committed" for treatment and do not have the option of leaving. Commitment proceedings vary from state to state. In thirty-two states, adolescents can be admitted under "voluntary" commitment status by their parents, with no legal recourse to contest this status (Gittler, Saks,and Quigley-Rick, 1989). Most inpatient facilities include locked-door units.

Inpatient programs provide a range of services, including a variety of therapeutic groups, opportunities for individual therapy, and on-site educational facilities. Twelve-step groups are almost always included. Programs for families, ranging from educating the family about substance abuse to systemic family *therapy, are often available. Other types of groups include stress-management groups, assertiveness or social skills groups, and "community" or interpersonal groups including all residents.

Within the population of adolescents receiving inpatient care for alcoholism, 89% were in rehabilitation or recovery, 5% were receiving medical detoxification, 2% were receiving social detoxification, and 4% were receiving custodial care (see Figure 5.

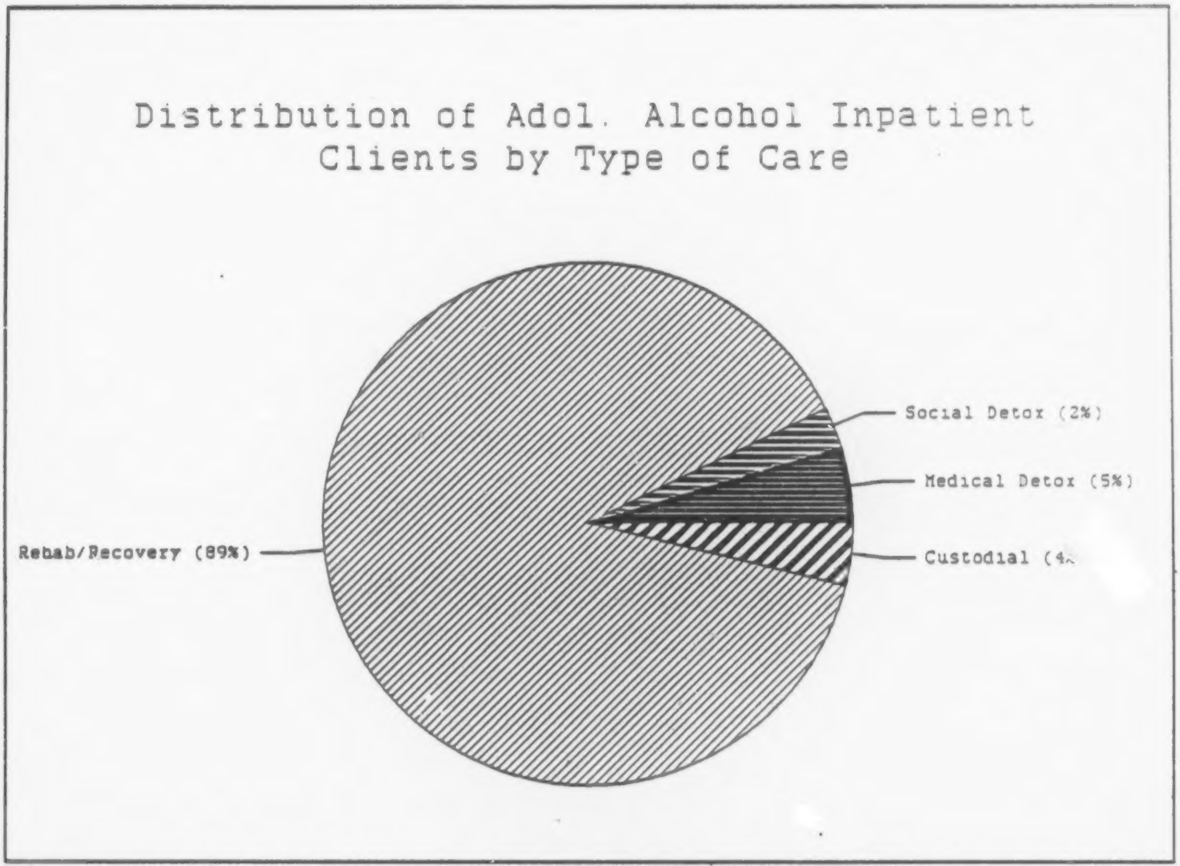


Figure 5 Distribution of adolescent inpatient alcoholism clients according to type of care in single care alcoholism only and combined units (data estimated from NDATUS, 1989)

Hospital placement accounted for 70% of the adolescents receiving inpatient alcoholism treatment, but only 12% of adolescents receiving any kind of alcoholism treatment (see Figure 6). However, as shown in Figure 7, adolescents being treated for drug abuse in a setting offering a single environment were more likely to be placed in residential settings than in hospitals (NDATUS, 1989).

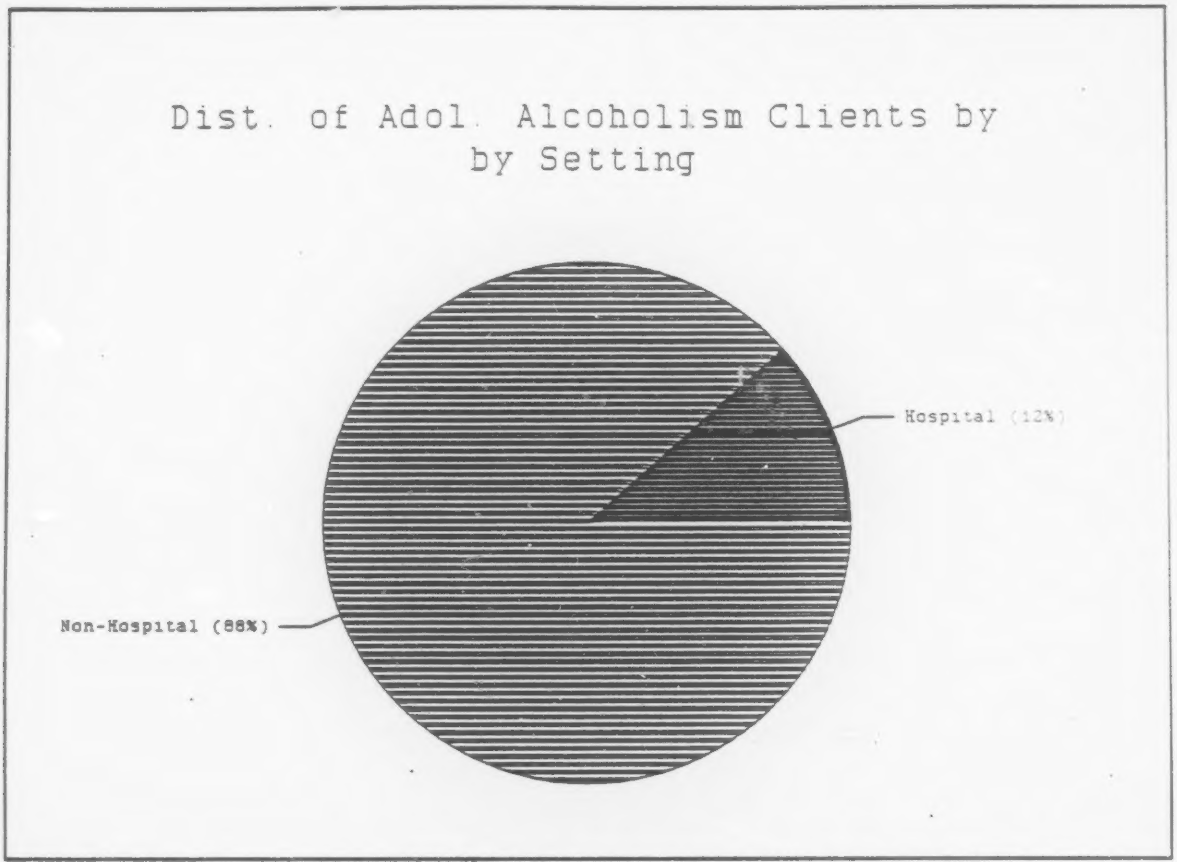


Figure 6 Distribution of adolescent alcoholism clients according to unit location in single location alcoholism only and combined units (data estimated from NDATUS 1987).

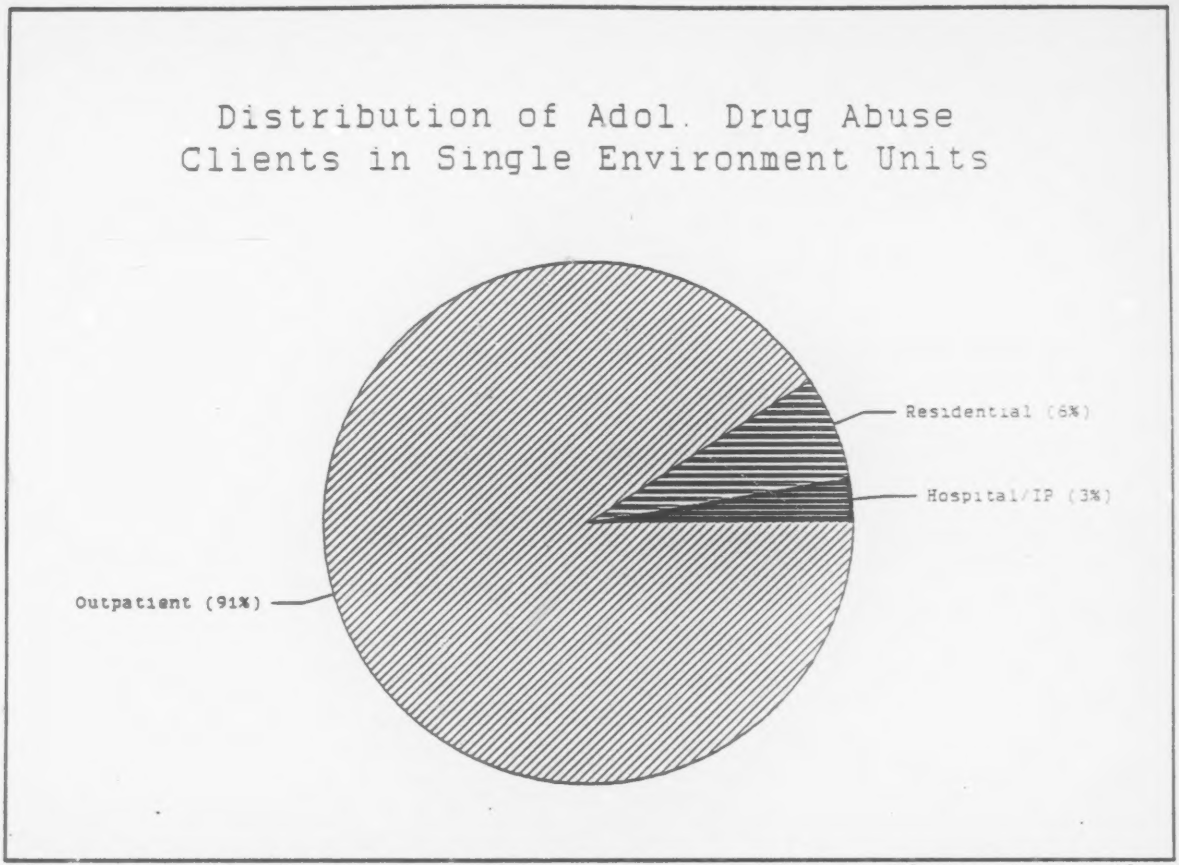


Figure 7 Distribution of adolescent drug abuse clients according to environment in single environment drug only and combined units (data estimated from NDATUS, 1989)

Within the populations of adolescents receiving inpatient care for drug abuse in hospital or residential settings, the predominant modality of treatment is "drug-free" as opposed to detoxification or maintenance. These proportions are displayed in Figures 8 and 9.

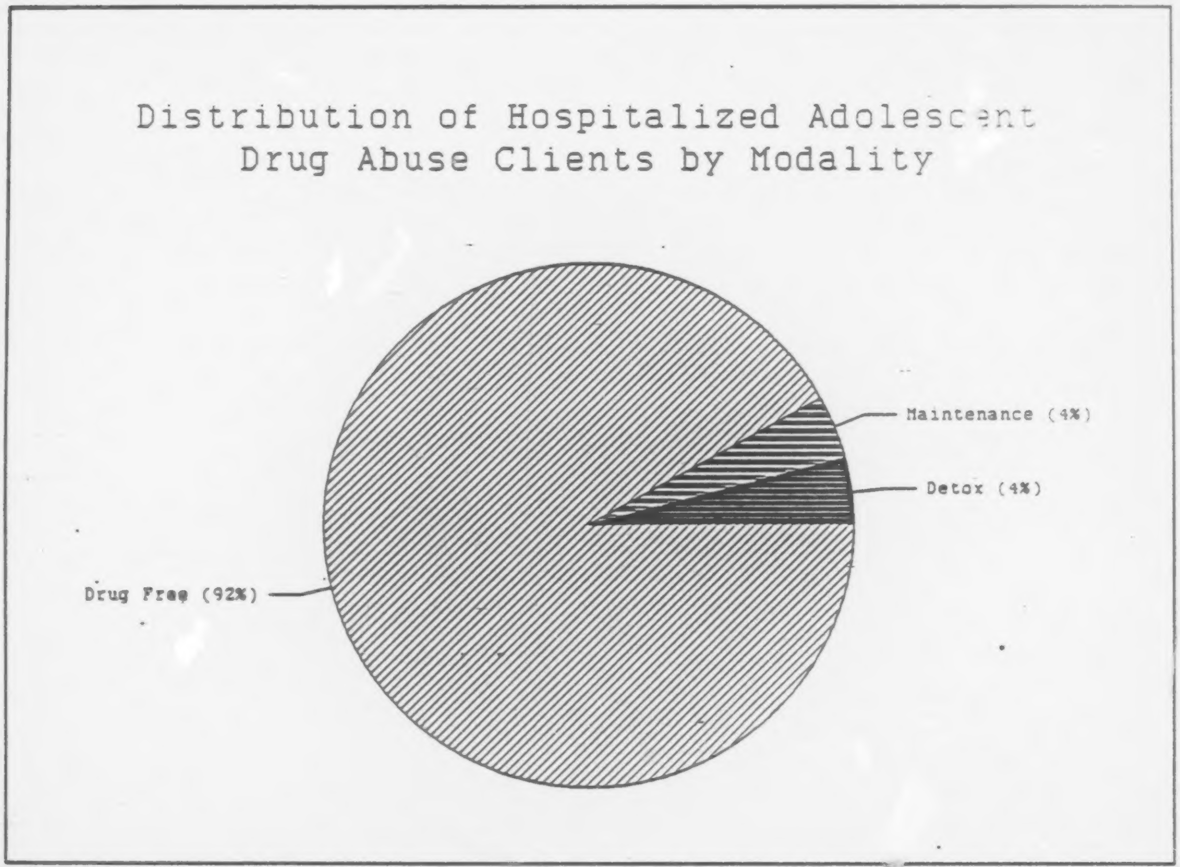


Figure 8 Distribution of hospitalized adolescent drug abuse clients by treatment modality

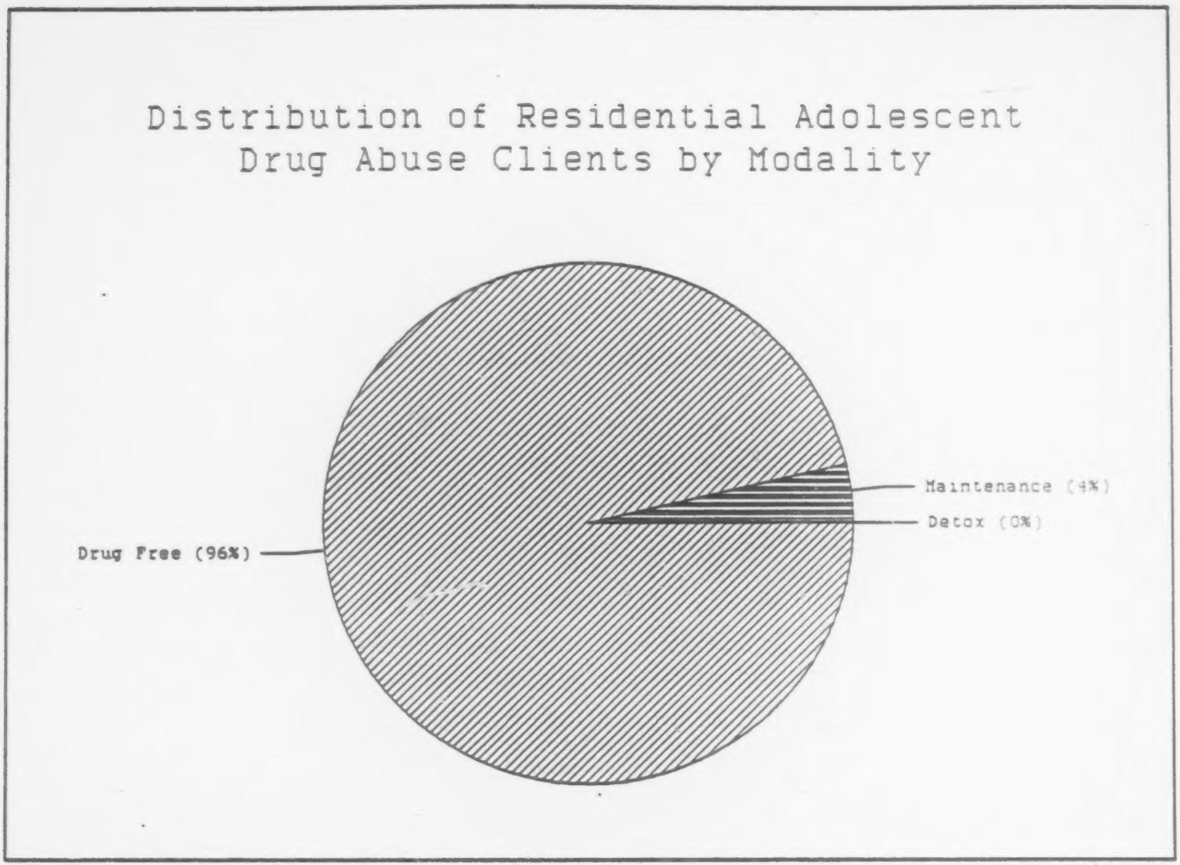


Figure 9 Distribution of residential adolescent drug abuse clients by treatment modality (data estimated from NDATUS, 1989)

The client's needs are assessed according to minimal guidelines. Physical status is always assessed, and other factors such as psychological functioning, family history, academic needs, and recreational preferences may also be considered. Psychological testing is often required in order to provide additional information regarding intellectual and personality functioning. When organic factors are involved, neuropsychological testing may be included.

A behavioral-management component consisting of "levels" of restriction is common, with the client admitted on a highly restricted basis and earning privileges, eventually including opportunities to leave the hospital for visits and weekend leaves. In some programs, decisions regarding advances in "levels" are made by the peer group, in a model similar to that of the therapeutic community.

The standard recommended length of stay for inpatient facilities has been 28 days for adults and slightly longer for adolescents, although briefer stays are increasingly common due to changes in third-party payment regulations. The 28-day standard is attributed by anecdote to a large Midwestern alcoholism treatment center (Hazeldon) which claimed a high success rate during the early days of alcohol treatment. When other programs, in an effort to provide similar services, asked them the length of their average stay for detoxification services, their response was 28 days. This became the standard simply by precedent (although the number was actually a mean length of stay rather than a recommended precedent), rather than by any particular empirical support. Adolescents are often assumed to need an even longer separation from their previous environment (eg. Morrison et al, 1989; Sunshine and Wright 1988), although research supporting the efficacy of this approach is equivocal.

Private hospitals tend to offer a greater variety of adjunct services than publicly-funded institutions, including a broader range of recreational activities, more family-related activities, and more community-based programs. Private hospitals are also more likely to offer a broader range of services. It is difficult, for example, for public programs with limited funding to offer adjunctive services such as intensive family therapy or even individual psychotherapy because these are expensive services. Public hospitals are more likely to rely upon group treatment and limited social and family services.

Private hospitals also tend to offer more aftercare alternatives, including less intensive treatment and access to group and family therapy for clients following completion of the program. Public hospitals are more likely to rely upon self-help groups and follow-up at community mental health centers, which traditionally provide aftercare services for state-run inpatient programs.

Staffing. Inpatient programs are usually managed by physicians with training in psychiatry, addictionology, or both. In private hospitals, physicians often serve as individual therapists, when individual therapy is deemed necessary, as well as case coordinators. Physician's orders are usually required for all case-related activity, such as prescribing medication, requesting special consultations (for example, psychological testing), and determining level of restriction. Despite this requirement, physicians may have limited contact with their clients, often meeting with them only for brief sessions and making decisions based on record reviews. Most hospitals use a team approach in which a variety of professionals share responsibility for patient care. In hospitals with more limited funding, individual therapy may be provided by social workers, nurses, or other assistants.

It is notable in this context that not all clients in substance-abuse treatment programs are likely to receive individual therapy. In some cases this is considered necessary only for dually-diagnosed clients (those with both substance abuse and other psychopathology). Otherwise, group treatment and adjunctive services are often considered sufficient. In fact, some authors suggest that the psychiatric community is likely to be more harmful than helpful to clients with primary substance-abuse problems (eg., Sunshine and Wright, 1988).

Psychologists are often employed as coordinators or program consultants, offering services such as individual assessment, development of behavior-management programs, and, occasionally, psychotherapy. Social workers typically provide family services and interface with other agencies such as group homes or community mental health centers providing aftercare and they may also facilitate therapy groups. Most of the day-to-day program supervision is handled by nursing staff and counselors. As with other residential programs, counselors are often themselves in recovery, and may have additional training or certification specific to substance abuse or chemical dependency.

Utilization. As of October, 1987, approximately 1597 hospitals had drug treatment programs, the vast majority of which included inpatient services (NDATUS, 1989). However, not all of these served adolescents. Approximately, 10,940 adolescents were served in inpatient settings. As shown in Figure 10,

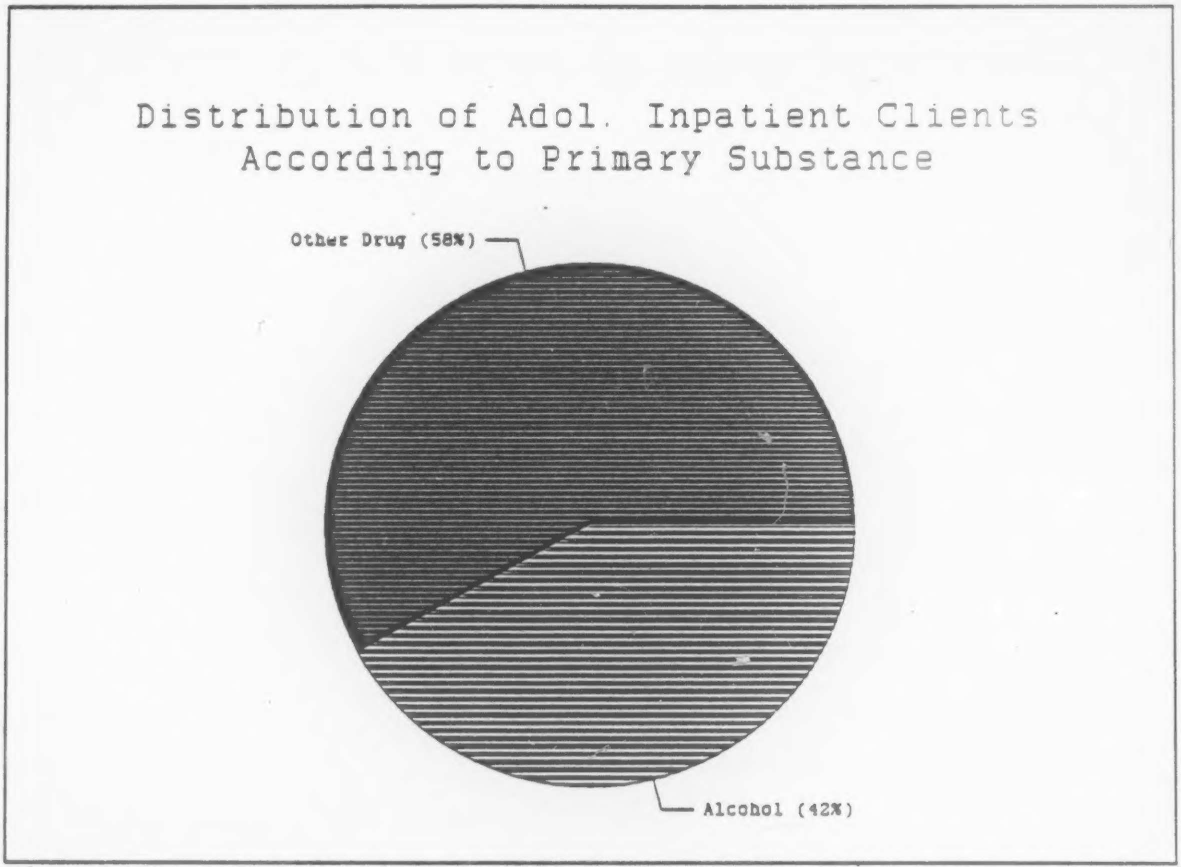


Figure 10 Distribution of adolescent inpatient clients according to primary substance (data estimated from NDATUS, 1989)

adolescents being treated primarily for alcohol abuse accounted for 42% of these adolescents, the remainder were treated primarily for other drugs. This represents a more equivalent distribution than that found for outpatients, 34% of whom were primiarily alcohol clients.

Of the total inpatient population (including adults), 65% of the patients were white. While a similar percentage of the outpatient population is white, the proportions of blacks and hispanics varies across settings. While blacks account for 22.5% of inpatients they only account for 18.8% of outpatients. On the other hand, hispanics comprise 9.4% of the inpatient population and 13% of the outpatient population. Minorities account for a relatively high proportion of drug abuse inpatients (44%) as compared to the proportion of alcoholic inpatients (30%) (NDATUS, 1989). The meaning of this difference is unclear as there are only minor racial differences in usage rates (NIDA, 1989).

Although data is not available differentiating adolescent from adult clients by setting and ethnicity, it is likely that an even higher percentage of adolescent hospital clients are white. Approximately 70% of the total hospitalized population is male but extrapolating this data to include adolescents, however, is somewhat risky. It is probable that the ratio of females to males in inpatient programs is higher among the adolescent population than in adults.

USE OF TREATMENT SERVICES BY ADOLESCENTS

The primary source of treatment data is the National Drug and Alcoholism Treatment Unit Survey (NDATUS), which is the source of most of the utilization data presented above. The latest survey asked units to provide information on clients and treatment modalities on October 30, 1987. Therefore, it provides a cross-sectional snapshot of treatment and not a count of numbers served in an entire year. In addition, 22.5% of all units queried were unaccounted for. The totals reported in the NDATUS (1989) report were based only on the reporting units. For the purposes of this report, these totals were multiplied by 1.29 to reflect an estimate of the numbers served by those programs that did not respond to the survey. While this extrapolation factor is based on the unsubstantiated assumption that the units who did not respond served the same numbers as those who did, it is felt that this extrapolation is a closer representation of the total served than the number calculated by including only the 77.5% of the programs who responded. Those who feel more comfortable with the observed cases reported to NDATUS may divide our totals by 1.29. In any case, the ratios presented (e.g., inpatient to outpatient, alcohol to other drugs) remain the same regardless of the use or non-use of this extrapolation constant.

A second extrapolation constant can be estimated in order to convert the point prevalence data to yearly totals served. Units reported the total number of adolescent and drug clients served in a 12-month period. For every drug abuse client served on October 30, 1987, 3.21 were served in the 12-month period ending on that date. The ratio of annual total served to the total served on the point prevalence date for alcoholism treatment is 4.23. Applying these ratios to sub-totals based on age and setting makes the assumption that length of treatment is relatively equal for different age groups and settings. While this assumption can be easily challenged, the assumption will be used as the only available estimate for total served in a 12-month period. These estimates for totals served for alcohol and other drug abuse in 1987 are presented in Figure 11.

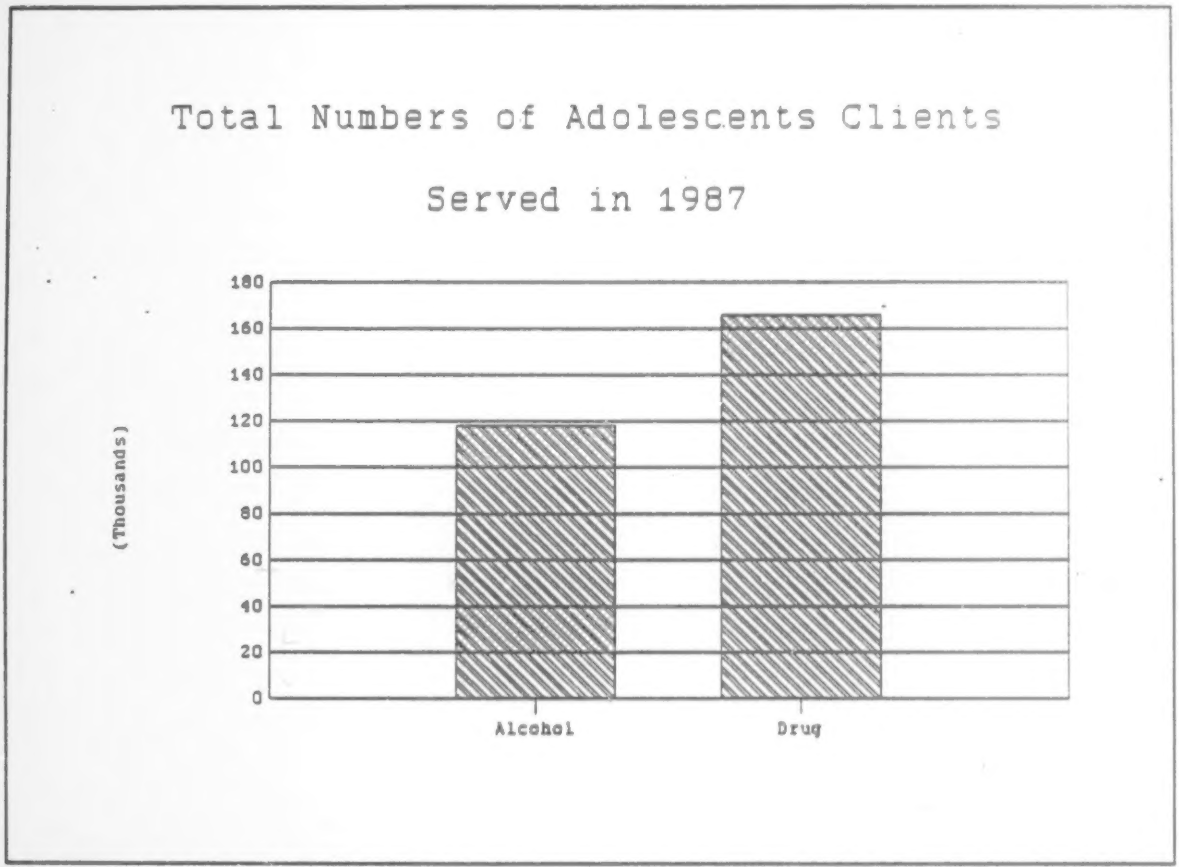


Figure 11 Numbers of adolescent alcoholism and drug abuse clients served in 1987 (data estimated from NDATUS, 1989)

On October 30, 1987, approximately 77,000 adolescents were participating in treatment programs for substance abuse. This number represented approximately 10% of the population in treatment. Adolescents comprised approximately 15% of the drug abuse treatment population and just over 6% of the alcohol treatment population.

Approximately 18% of drug treatment programs serve only adolescents and these programs serve about half of the adolescents in treatment. Figure 12 shows that the other half of those in drug abuse treatment are distributed among programs in which varying proportions of clients are adolescents. Of adolescents in alcohol treatment programs, however, only about

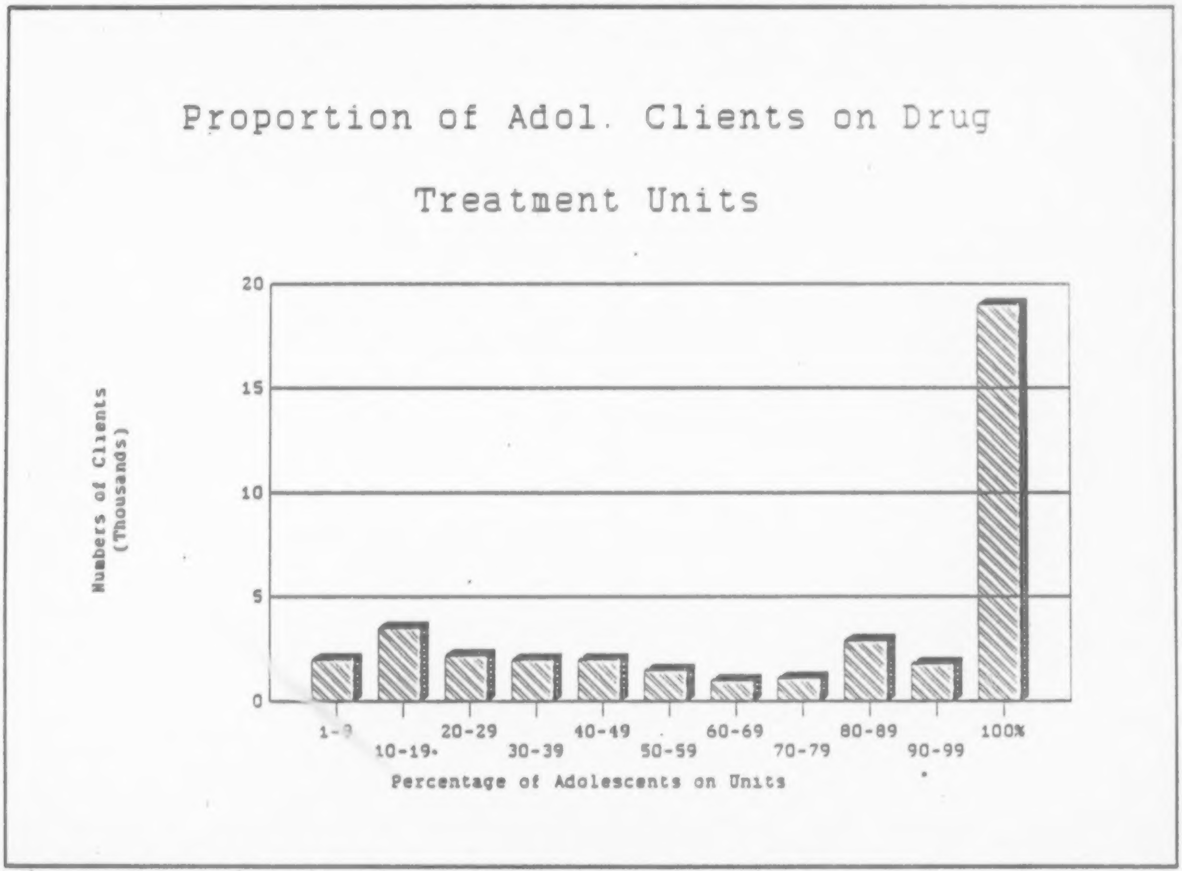


Figure 12 Distribution of adolescent clients on drug treatment units by proportion of adolescents on unit (data estimated from NDATUS, 1989)

15% were in treatment programs serving only adolescents (see Figure 13).

Almost one-fourth of adolescent alcohol treatment clients were in programs in which less than ten percent of the client population were adolescents (Noble, 1989).

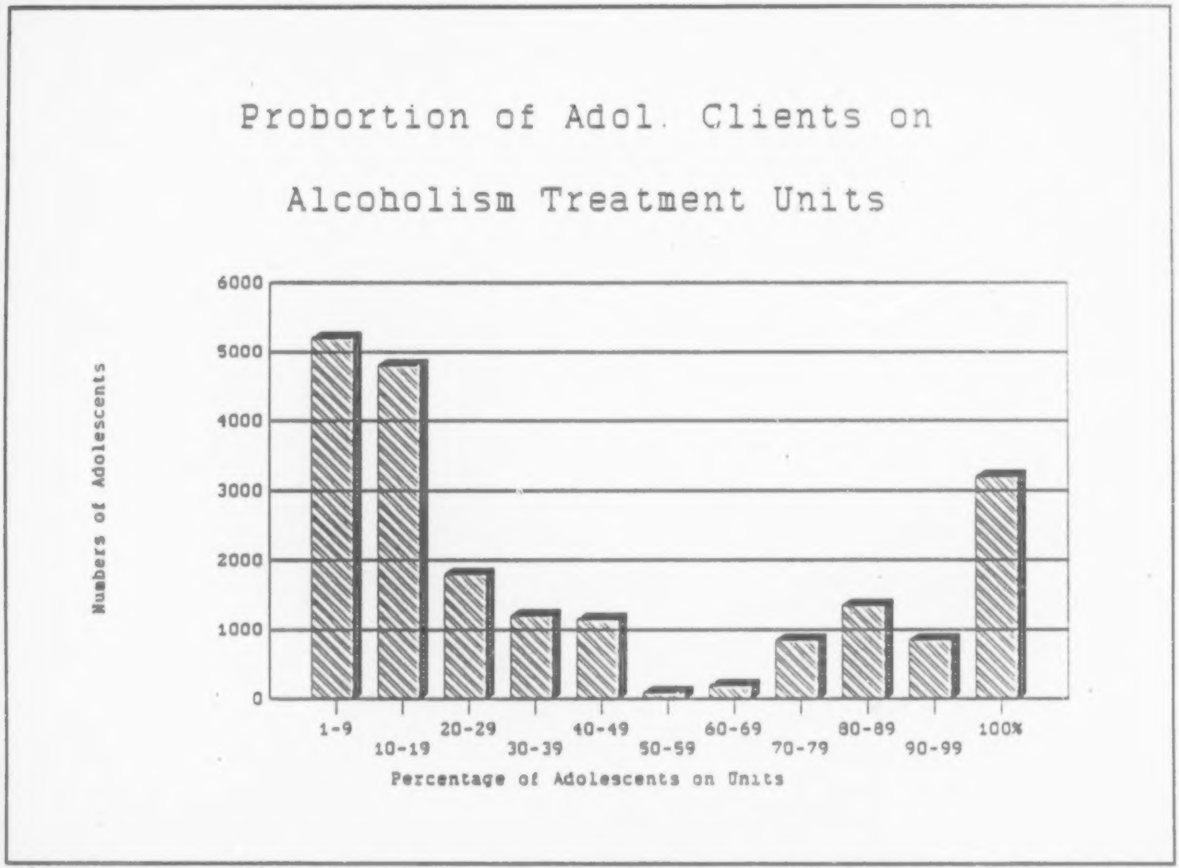


Figure 13 Distribution of adolescetn clients on alcoholism treatment units by proportion of adolescents located on unit (data estimated from NDATUS, 1989)

Adolescents in drug treatment were far more likely (87%) to receive outpatient, rather than inpatient treatment. A slightly lower proportion of those in treatment for alcohol abuse (83%) were treated in outpatient settings.

Comparing this data with that available for 1982 indicates that adolescent clients in substance abuse treatment have grown both in numbers and as a percentage of the total treatment population. In 1982, adolescents receiving treatment for drug problems represented nine percent of the population in such treatment. The number of adolescents in drug treatment increased 124% by 1987, and adolescents then represented 15% of the population in treatment (see Figure 14). The growth in alcohol treatment for adolescents is even more pronounced. The adolescent alcoholism client population grew by 163% between 1982 and 1987. Adolescents represented only two percent of the total population in treatment for alcoholism in 1982, a proportion which grew to six percent by 1987 (Nobles, 1989). With the addition of greater public funding and the further development of the private treatment sector, it is likely that these increases have continued since the last point prevalence date of October 30, 1987.

These increases in the numbers of adolescents treated most likely reflect the difference in availability of treatment, rather than a difference in client needs (Noble, 1989). Epidemiological data indicate no significant increases in substance use by adolescents during this period.

Over half of the adolescents in treatment for drug abuse in the 1987 survey were male, as were slightly over two-thirds of

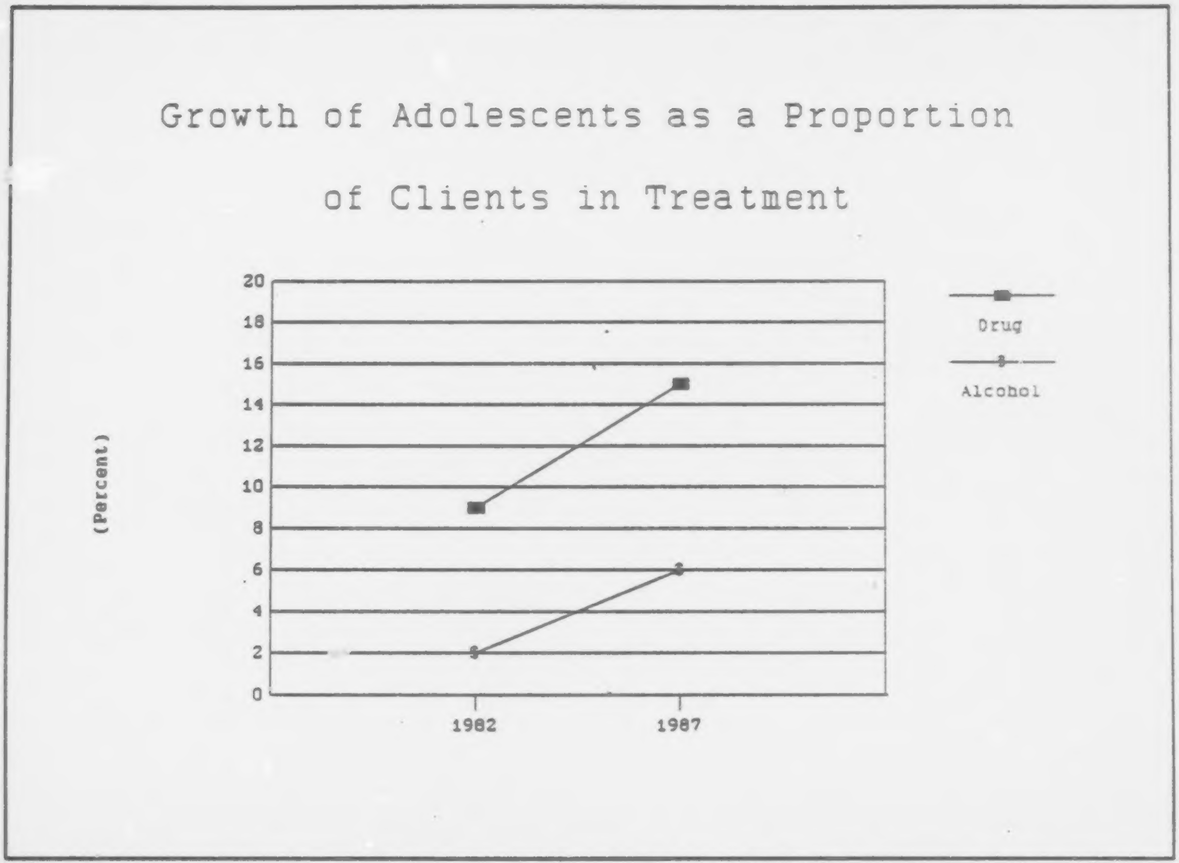


Figure 14 Growth of adolescents as a proportion of total clients in treatment for alcohol and drug abuse from 1982 to 1987 (data estimated from NDATUS, 1989)

those in treatment for alcohol abuse. As noted by various researchers (Noble, 1989; Hubbard et al 1989), this reflects a trend for better service availability for males in both the adult and the adolescent population, although even these numbers represent an increase in females obtaining services for substance abuse. In general, the adolescent treatment population is less male-dominated than the adult population. While males comprise nearly 70% of the adult drug treatment population and more than 75% of the adult alcoholism treatment population, they account for only 55% and 67% of the adolescent drug and alcohol treatment populations, respectively (see Figure 15).

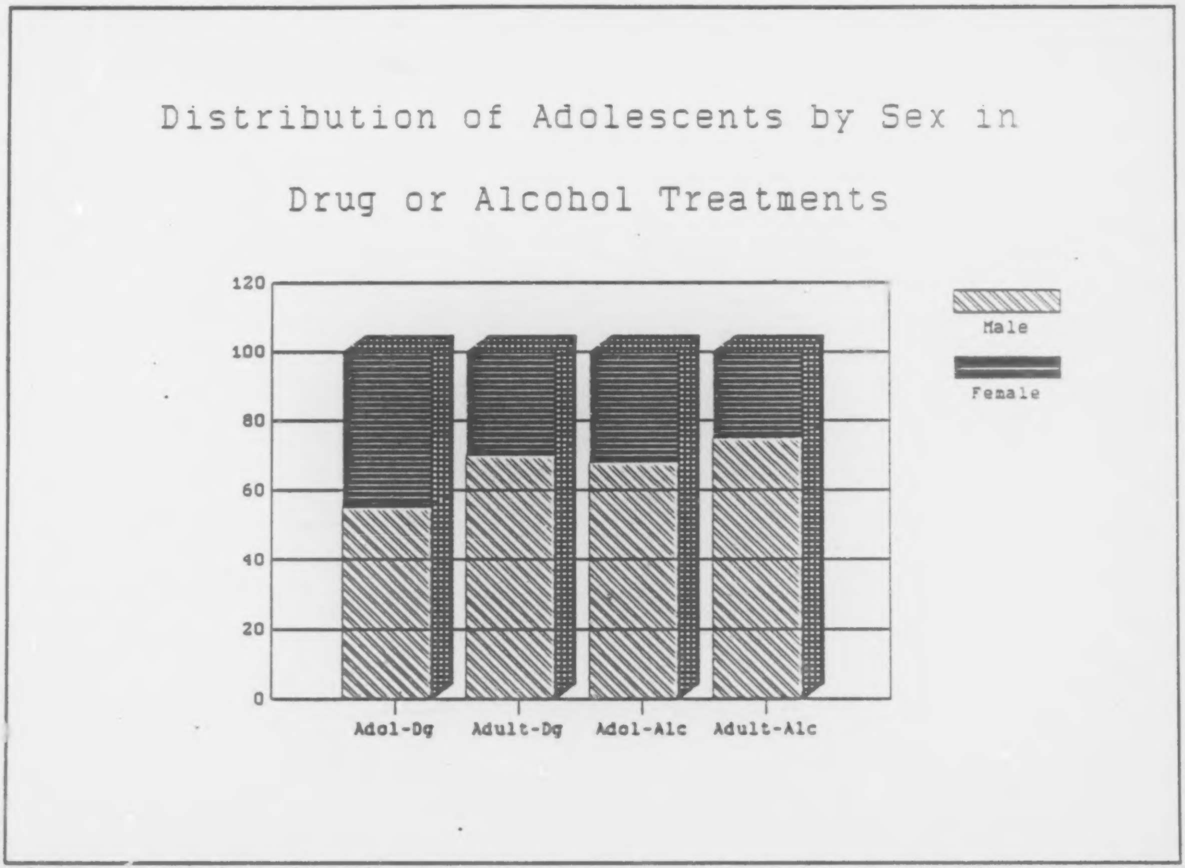


Figure 15 Distribution of adolescent and adult alcoholism and drug abuse clients by sex (data estimated from NDATUS, 1989)

Adolescent clients are more likely than adults to be treated in residential or hospital settings, and are most likely to be treated in settings that focus on drug-free treatment (rather than detoxification or maintenance programs.) These differences may reflect assumptions regarding the special characteristics of adolescent substance abuse. For example, the preference for inpatient treatment may reflect a common belief that adolescents lack the self-control and motivation to cooperate with outpatient treatment, or that substance use constitutes a greater hazard to adolescents than to adults. It may also reflect differences in commitment proceedings between adolescents and adults. Committing an adult for involuntary treatment requires proof of danger in most states, while most states provide for parents to sign "voluntary" commitments for their minor children, regardless of the minor's desire for treatment (Gittler, Saks, & Quigley-Rick, 1989)

Utilization rates (percent capacity used) seem related to funding sources for the different treatment programs. For example, 14.4% of all programs (including those serving adults) were owned by private, for-profit enterprises. These served 11.9% of the total population in treatment and had the lowest utilization rate, at 61%. Given the recent proliferation of specialized private, for-profit programs for adolescents, it is likely that this rate is even lower in this age group. On the other hand, the 17.3% of the facilities owned by state or local governments serve 24.6% of the population in treatment and maintain a utilization rate of almost 90%. The largest number of treatment programs are offered by private, non-profit facilities, accounting for 65% of treatment programs. Utilization rates for these programs average 80% (NDATUS, 1989).

These numbers indicate that available treatment is underutilized in the private sector. The implications of this finding are complex. Costs may be increased in order to offset the financial loss inherent in empty space. As noted below, substance abuse treatment is quite costly. Recruitment efforts may be increased as in the media advertisements for private treatment centers, and individualization of treatment diminished as a cost-cutting measure.

This situation has the potential for overtreating, especially in private, for-profit settings. At the same time, youth in need who cannot afford private treatment may continue to be unserved or underserved.

The numbers of adolescents served and the potential capacity of the system can be given more meaning by comparing the numbers of adolescents in need. There are a variety of points in the progression of use of various substances that may indicate the need for treatment. The line at which treatment is indicated will differ as a function of extenuating circumstances in the life of the adolescent, including protective or debilitating influences in the family, the peer group, the school, and the community. The values of the significant others within these domains, as well as in the professional community, also play a role in influencing the decision as to when an adolescent needs treatment.

With these cautions in mind, numbers in treatment for alcohol and other drug abuse will be considered in conjunction with data on the epidemiology of usage. Usage data was collected in the 1988 and 1985 Household Surveys (NIDA, 1989; NIDA 1988), while the treatment data reflects treatment in 1987 (NDATUS, 1989). If pre-existing trends have continued, it is likely that the numbers in treatment have increased in the interim, while the usage data is unlikely to have significantly changed. In addition, the numbers of treatment reflect all youth under 18 years of age, while the usage data refers to adolescents aged 12-17. However, it is unlikely that the addition of data for those aged 11 and under would greatly affect the usage totals.

Numbers in treatment for drug treatment are compared to the numbers of adolescents using cocaine or marijuana once per week or more, as well as to the number of adolescents using crack once per month or more (Figures 16-18). Numbers in treatment for alcohol abuse are compared to those drinking once per week or more, those that consume five or more drinks on one occasion five or more times per month, and those that are afraid that they are or may become alcoholic (Figures 19-21). The latter two totals are only available from the 1985 Household Survey.

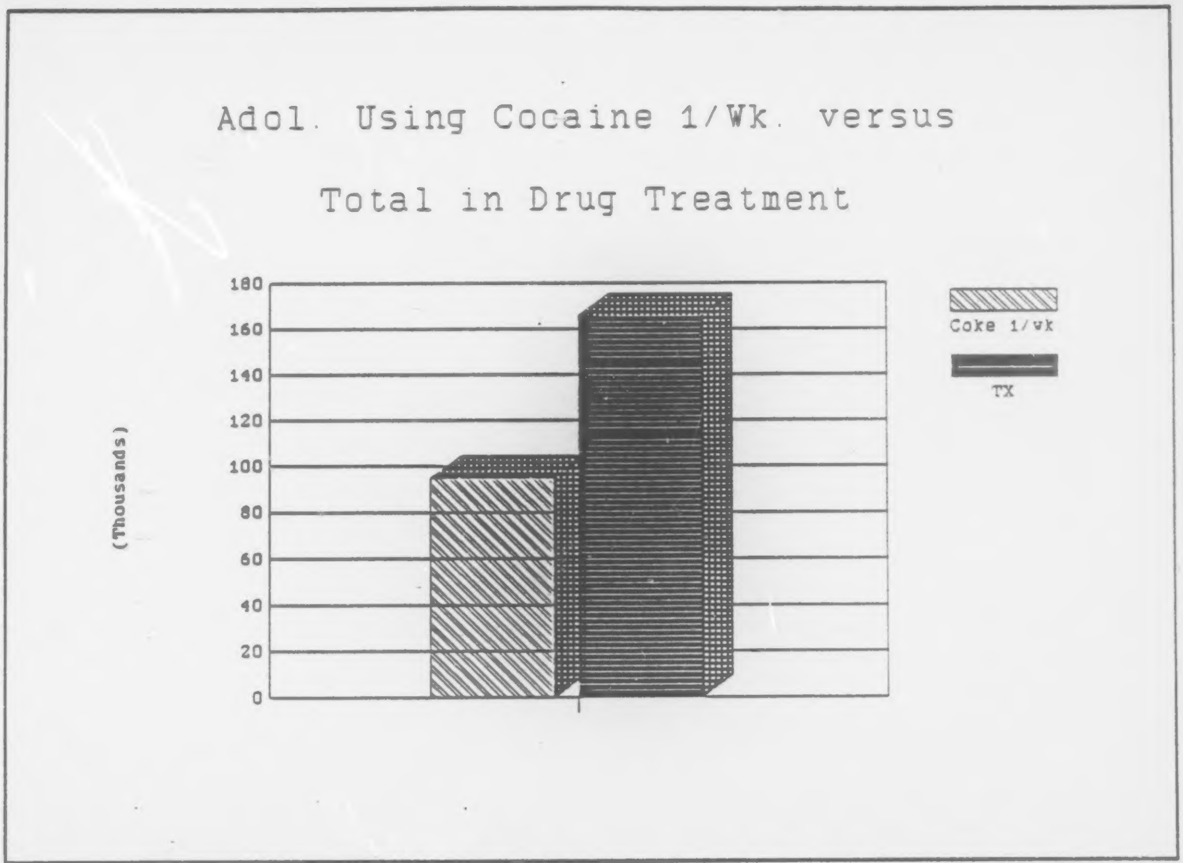


Figure 16 Number of adolescents using cocaine once per week or more in 1988 compared to number of adolescents receiving drug abuse treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1989).

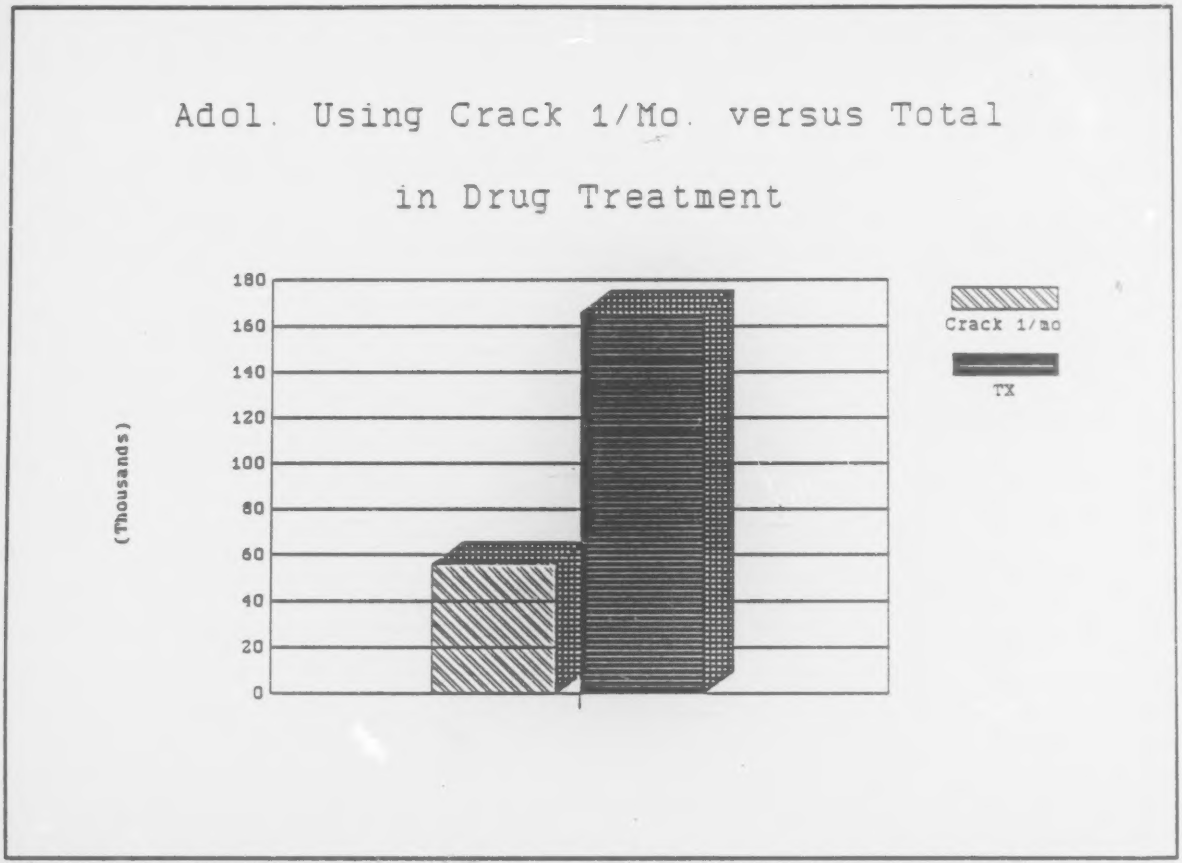
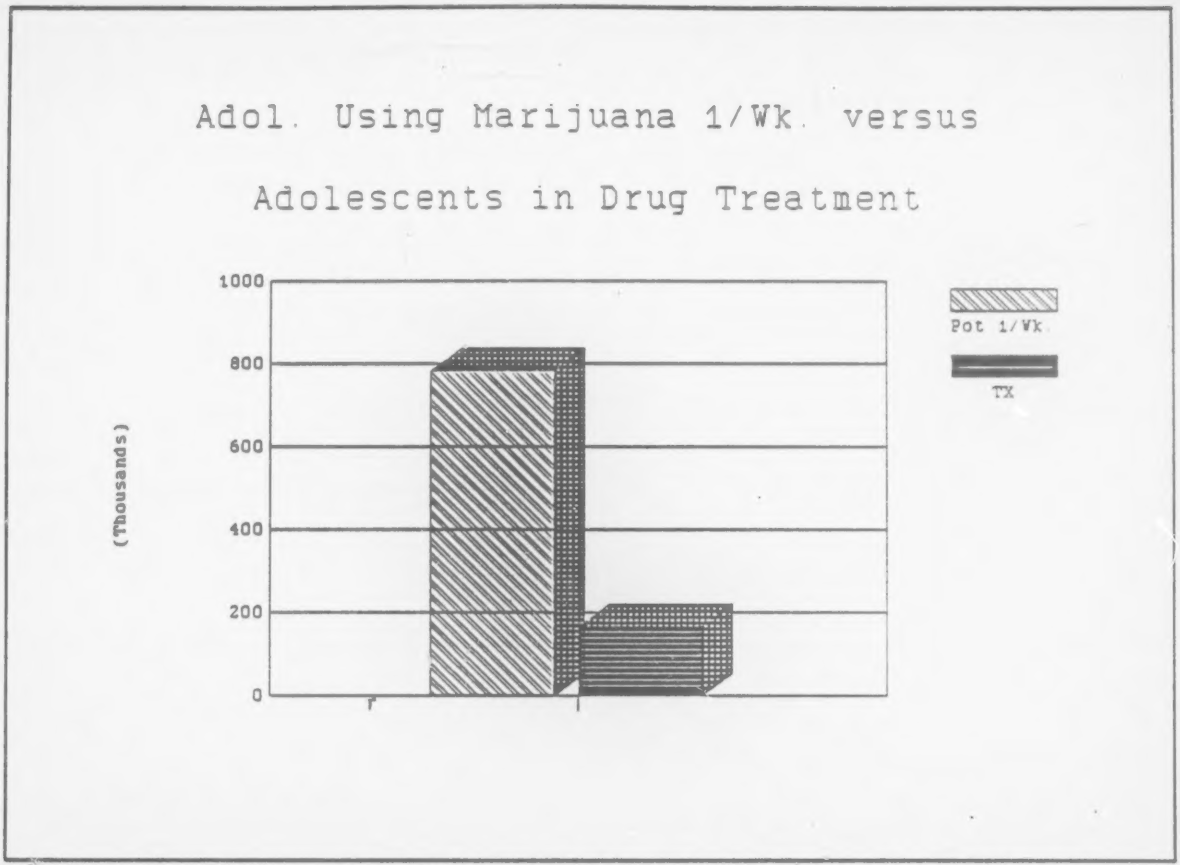


Figure 17 Number of adolescents using crack once per month or more in 1988 compared to the total number of adolescents receiving drug treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1989).


Adol. Using Marijuana 1/Wk. versus

Adolescents in Drug Treatment

Figure 18 Number of adolescents reporting use of marijuana once per week or more in 1988 compared to the number of adolescents receiving drug treatment in 1987 (data estimated from NDATUS, 1987 and National Household Survey, NIDA, 1989).

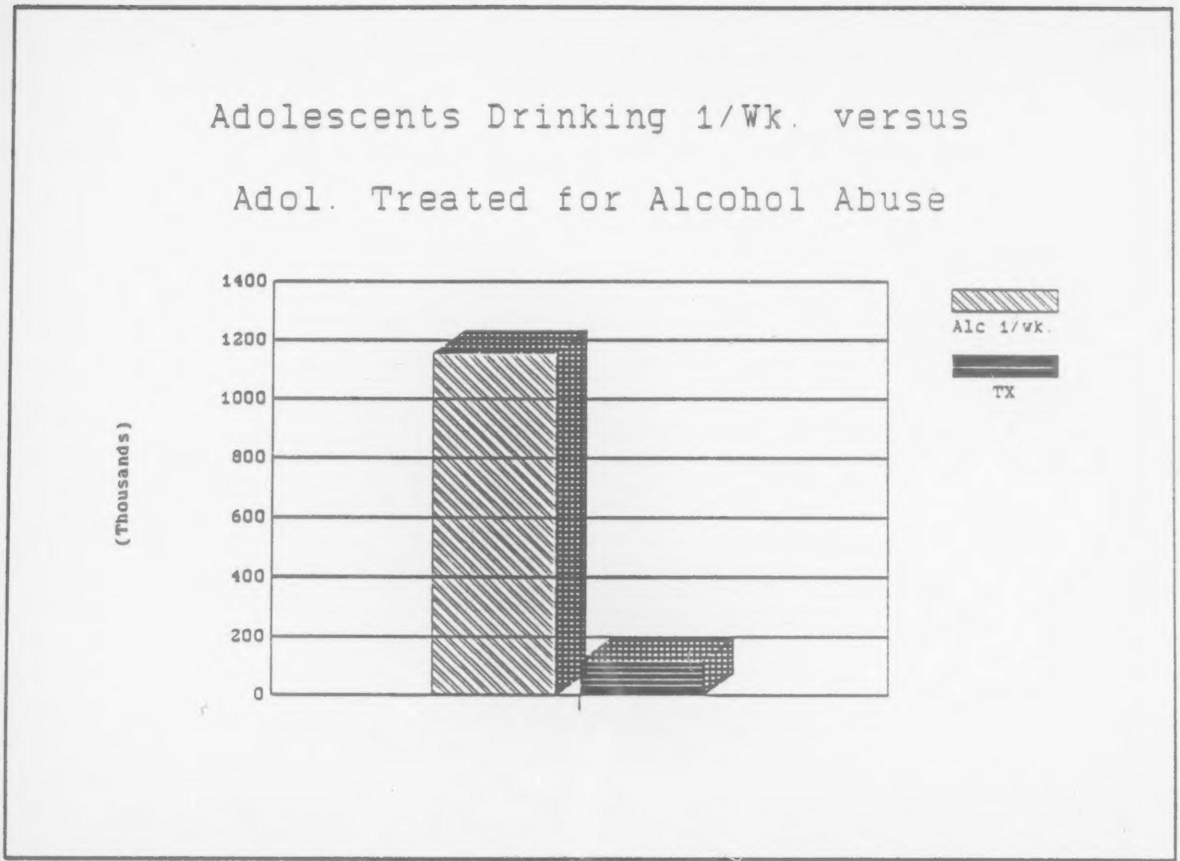


Figure 19 Number of adolescents drinking alcohol once a week or more in 1988 compared to the number of adolescents in alcoholism treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1989).

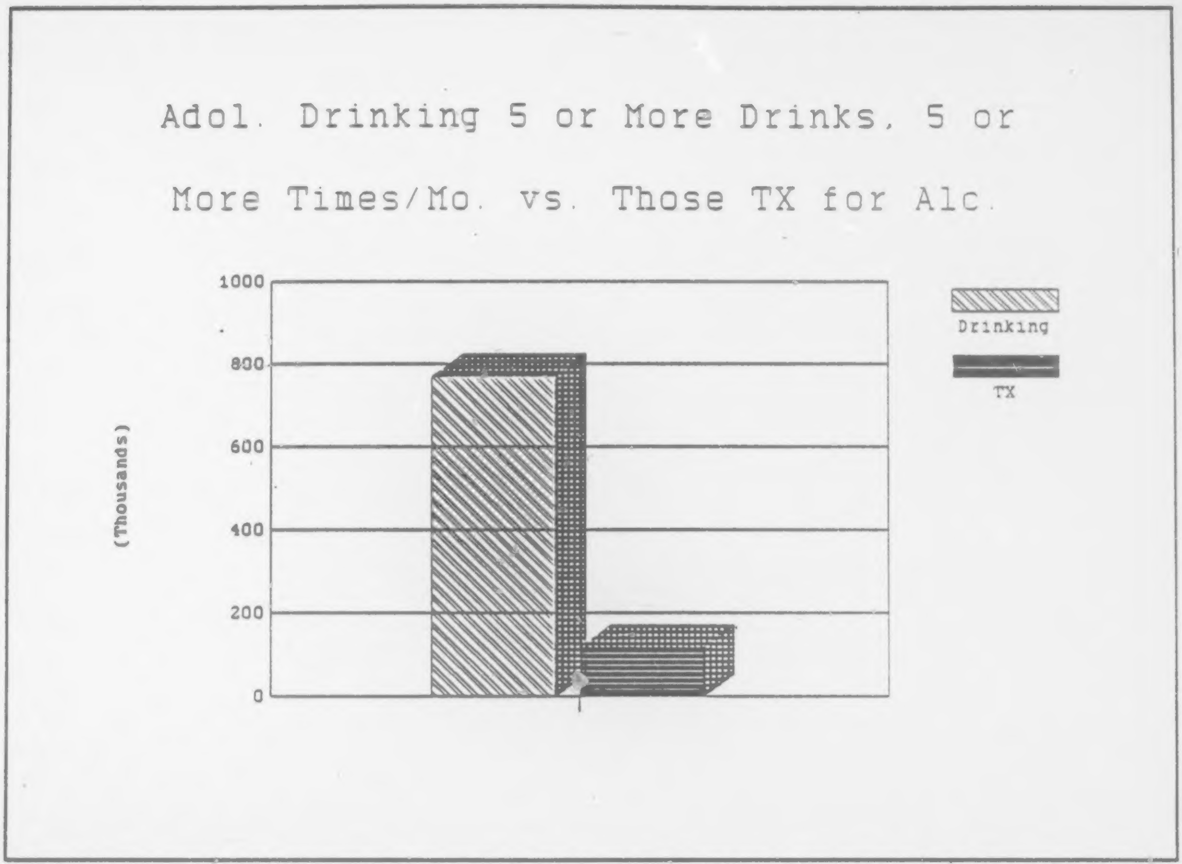


Figure 20 Number of adolescents reporting drinking five or more alcoholic drinks at one time, five or more times/month in 1985 compared to the number of adolescents receiving alcohol abuse treatment in 1987 (data estimated from NDATUS, 1989 and NIDA, 1988)

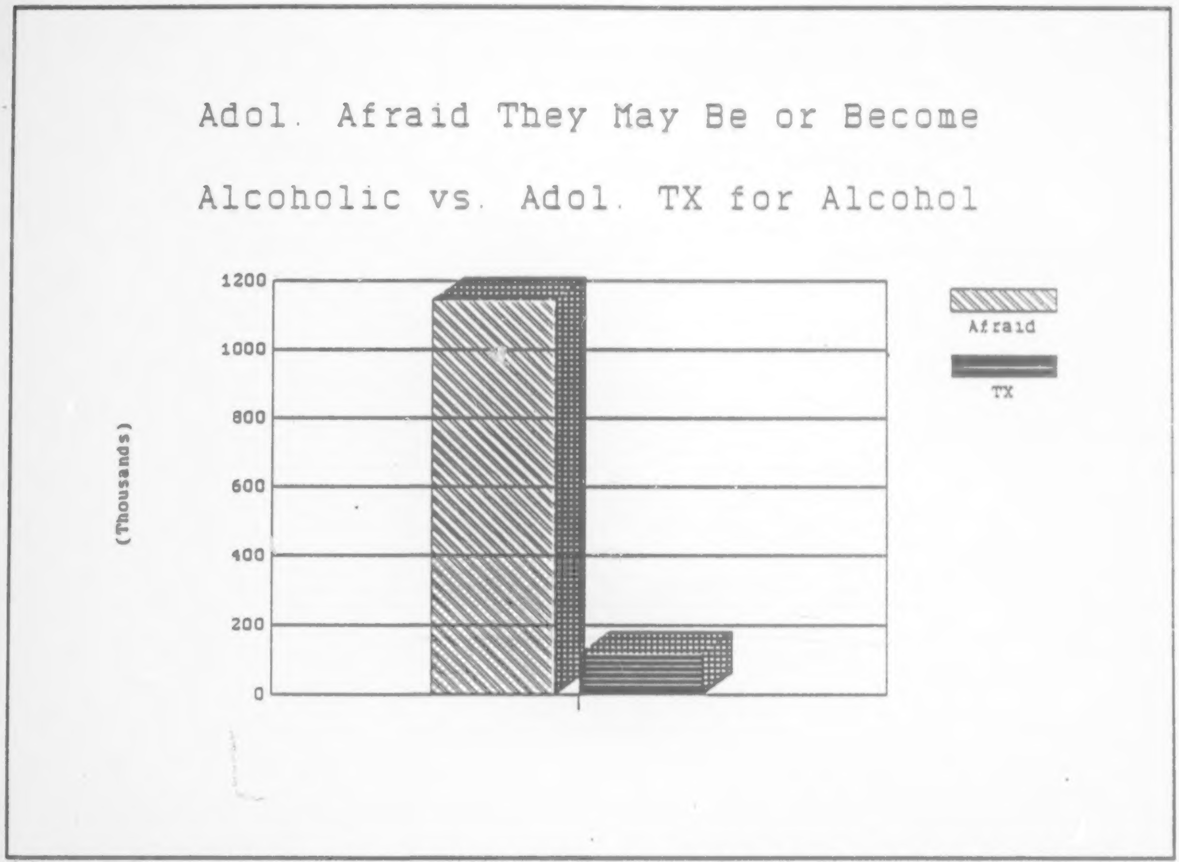


Figure 21 Number of adolescents reporting being afraid that they are or may become alcoholic in 1985 compared to total adolescents in alcohol abuse treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1988).

These graphs illustrate several noteworthy findings concerning treatment and need. Given the public and professional attention to the cocaine and crack "epidemic", it is somewhat surprising to find that there are actually significantly more adolescents treated for drug abuse in a given year than claim to use these drugs on a weekly (cocaine) or monthly (crack) basis. It would appear that many of those being treated for drug abuse are being treated for marijuana, which is still the illegal drug of choice among adolescents.

On the other hand, these findings are not in opposition to the observation that there are many adolescent crack and coke users who are not receiving treatment. To say that there are a relatively large number of adolescents receiving treatment compared to users of coke and crack for drug abuse and that the system as a whole is not being used to capacity does not imply that a given user at a given time in a given location with limited resources has any treatment options available. The data as presented are grossly aggregated and do not reflect the experiences of individual youth or groups of adolescents (particularly low income) who cannot find treatment.

While popular current attention has been focused on crack and cocaine, there is no doubt that the need for further alcohol treatmen is considerably more severe. Very few would argue that an adolescent drinking at least five drinks more than once per week is in need of treatment. Yet, the number of adolescents who exhibit such drinking behavior outnumber those in treatment for alcohol abuse by almost 7 to 1. By virtually any accounting method, there are more adolescents in need for alcohol abuse than for abuse of other drugs. However, there are considerably more adolescents receiving treatment primarily for the use of other drugs than those receiving treatment primarily for alcohol abuse.

Depending on the drug of interest, the capacity of the system is adequate or inadequate to treat the adolescents in need. However, as stated above, the total capacity of the system is not relevant for a given individual who may not be able to find his or her way to the vacant positions within the system. Furthermore, there is no conceivable way to conclude that the current system could handle the numbers in need for alcohol abuse, even assuming total efficiency of its use. In general, most facilities were being used at 70-90% of capacity, with the exception of the private, for-profit segment, which has a lower utilization rate. As stated above, the need can be conservatively estimated at 700% above 1987 treatment levels.

STANDARDS FOR PLACEMENT IN THE SUBSTANCE ABUSE SYSTEM

Regulation of health care agencies occur on several levels. Individual states maintain standards for licensure for hospitals ("acute care facilities"), residential programs, outpatient programs, and day treatment ("day care," or "partial hospitalization" programs) which vary slightly from state to state. At a national level, the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO, formerly the Joint Commission for the Accreditation of Hospitals) provides minimum and "optimal" standards which are incorporated into the licensure standards in most states. These standards involve such factors as medical equipment, staff availability, client records, and methods for assuring and documenting client care. In 1984, JCAHO standards were modified to include provisions for Quality Assurance Programs within hospitals, with new emphasis on ongoing monitoring of patient care and added emphasis on treatment outcome (Joint Commission on the Accreditation of Healthcare Organizations, Quality Assurance Model, 1989). Although the universality of JCAHO standards has been criticized in recent years and alternatives have been suggested, these standards set the minimum guidelines for most healthcare programs nationally.

The strongest set of alternative guidelines has been established by the Commission on Accreditation of Rehabilitation Facilities [CARF]. This model is less medically oriented, although medical personnel are specified for particular services. CARF standards are accepted for licensure of substance abuse treatment programs in several states (CARF, 1989).

In addition to external standards, the treatment community has developed standards of its own, which offer more detail in regards to criteria for admission, treatment in specified modalities, and discharge. Two standards manuals are included in this discussion.

The "Cleveland Criteria" for admission, treatment, and discharge were developed in 1986 by the CATOR network in collaboration with several treatment centers and advisors. These criteria offer guidelines for placement and treatment in substance abuse services and cover six levels of care. The Cleveland Criteria include separate guidelines for adolescent clients, noting that adolescents may require more intensive and lengthy evaluation due to noncompliance or other issues, and that adolescents often require longer terms of treatment than adults.

They suggest that prior treatment failure, or unavailability of the suggested treatment modality, are indications for treatment at a higher level of care.

The National Association of Addiction Treatment Personnel (NAATP) is in the process of completing its standards manual for adults and adolescents. The current draft notes that "factors addressing the maturation level, cognitive functioning, developmental disorders. . .were incorporated into the criteria (for placement)" and that these criteria are more specific, especially in regards to determining severity of substance abuse problems, than are adult criteria. This document also suggests that once an adolescent is admitted to treatment, he or she should not necessarily be discharged to less intensive treatment simply because he or she now meets the standards for less severe problems. Consistency and uniformity of treatment is considered essential.

Preliminary standards suggested by both NAATP and the Cleveland group include a requirement of DSM-III-R (American Psychiatric Association, 1987) diagnosis of a substance use or dependence disorder for a client to be considered for treatment. Additional assessment of "cognitive and developmental functioning" are recommended by NNATP for adolescents, although instruments for assessing these are not specified. Placement decisions are also affected by medical, psychiatric, and "environmental" complications and factors such as emotional functioning, family and academic functioning, and developmental disorders.

The NAATP guidelines specify four treatment modalities: Outpatient, partial hospitalization, residential rehabilitation, and inpatient detoxification. They suggest that the client should be placed in the least restrictive environment possible and that placement decisions should be based on clinical functioning rather than issues of sponsorship or payment. The Cleveland guidelines describe six levels of care, including two levels of inpatient care and adding self-help groups as the least intensive treatment.

Inpatient Care

Under both sets of guidelines, the criteria for inpatient placement are quite rigorous. To qualify for "medically managed intensive inpatient treatment" by the Cleveland Criteria, the adolescent must show acute signs of withdrawal, physical complications, severe psychiatric disturbance involving potential risk to self or others, a history of running away, extreme resistance to treatment, or severe crisis in functioning or in environmental support.

A slightly less intensive treatment program, described as "medically supervised inpatient treatment," is suggested when complications are not life-threatening but involve functional impairment. Such a placement would be appropriate when psychiatric disturbance such as conduct disorder or oppositional disorder is apparent, or when the adolescent's environmental support is minimal, or when the client resists or minimizes need for treatment. Continued inpatient treatment is suggested until the client demonstrates awareness of the problem, sufficient commitment to continue treatment, medical and psychological improvement, and environmental support.

NAATP standards for "inpatient treatment" include both Cleveland categories of intensive care and offer highly specific criteria for such placement. The adolescent client must clearly meet DSM-II-R diagnostic requirements. Specifically, this means the client must be demonstrably adolescent ("at least age eleven") in physical and cognitive development, must show specific signs of impairment in social, academic, interpersonal, developmental, or medical functioning, and must show global impairment sufficient to rate a score of 40 or less on the 100-point Global Assessment of Functioning scale (American Psychiatric Association, 1987). A three-page checklist is provided to evaluate adolescent clients, yielding an "Acuity Index" which not only determines placement eligibility but also recommends length of inpatient stay, ranging from 21 to 60 days.

Continued inpatient services are recommended as long as an adolescent client maintains a diagnosis of substance dependence and demonstrates continued complications of substance abuse, continued resistance, major medical complications, complications of developmental disability requiring treatment, or continued serious psychiatric disorder involving risk of harm to self or others. Discharge is recommended when diagnostic criteria are no longer met, complications are resolved or are not being treated, cognitive functioning is lower than sixth grade level, or persistent noncompliance indicates that treatment is not successful.

Residential Care

The NAATP provides separate but similar criteria for residential treatment, with the comment that these may be the same facilities as are used for inpatient services. These specify that the client meet criteria for diagnosis of substance dependence and be adolescent. He or she must be demonstrably medically stable and must show moderate dysfunction in emotional, interpersonal, academic, or developmental functioning related to substance use, with a Global Assessment of Functioning score higher than 40. Continued stay is recommended until awareness and improvement are seen in the area of skills for resolving substance use, medical conditions are resolved or are not being treated, and behavioral risk is reduced.

Day-Treatment (Partial Hospitalization) Care

The Cleveland criteria for "Structured all-day treatment" suggest that this level of treatment is indicated in the presence of the following conditions: no withdrawal symptoms are present, any medical complications are stabilized, psychiatric diagnosis is present and warrants consistent monitoring but does not pose a threat, chemical use is associated with significant impairment or client minimizes substance use or lacks responsibility regarding control of substance use, or environmental support, or individual impulse control, is minimal. Discharge or transfer is indicated when external motivation is no longer needed to continue treatment compliance, any complications can be managed through outpatient treatment, and external support is available.

NAATP criteria for "Partial hospital (intensive outpatient)" services require diagnosis of substance use disorder by DSM-III-R standards. Such standards include adolescent developmental status, medical stability and ability to participate, evidence of appropriate cognitive functioning, ability to cooperate with treatment, sufficient impulse control as to pose no threat to self or others, a moderate level of familial or academic functioning, history of poor interpersonal functioning, and Global Assessment of Functioning score of 50 (moderate symptoms) or higher. Continued treatment is recommended as long as substance-abuse diagnosis is valid, i.e., the client lacks the skills necessary for problems solving around substance abuse, continued behavioral impulsivity is seen, or interpersonal or academic functioning remains impaired. Discharge is recommended when diagnostic criteria are not met. For instance, if medical stability is apparent, if the client is actively involved in and committed to treatment, if complications could be treated outpatient or are not being treated, if client is consistently noncompliant, or if family environment necessitates a different level of treatment, then a recommendation for discharge may follow.

Outpatient Services

The Cleveland criteria include two levels of outpatient care. "Intensive after-school treatment" involves daily participation for three or four hours five days a week. "Low-intensity outpatient treatment" includes a variety of less structured treatment programs, with meetings ranging from daily groups and sessions to weekly meetings with professional counselors. "Intensive" programs are warranted when the client is medically stable, when awareness of substance abuse problems are sufficient to allow for program participation, when treatment participation has been minimal, when impairment due to substance abuse is evident, and when emotional stressors or behavioral dysfunction are evident. This level of treatment is recommended until the client's involvement and commitment is sufficient to insure compliance with a less structured plan, medical and psychological issues can be managed with outpatient treatment, and environmental support is available.

"Low-intensity treatment" is recommended when the client is medically stable, meets cognitive and emotional requirements of outpatient treatment, is actively involved in the treatment, the behavioral problems are associated with substance use rather than with psychiatric disturbances, the services are required in order to cope with current difficulties, the evidence of continued substance use; and a supportive psychosocial environment. Discharge is recommended when patient is generally capable of a self-directed recovery plan and is medically and psychologically stable.

NAATP criteria indicate that outpatient treatment is appropriate for an adolescent client who meets the criteria for substance abuse or dependence and is aware of his or her problems; is willing to participate in treatment; has family involvement and support for treatment; is medically and behaviorally stable; and is functioning at an appropriate level socially and academically. Discharge is recommended when diagnostic criteria are no longer met; client is medically stable and demonstrates skills to maintain abstinence; or medical or behavioral crisis required more intensive treatment.

Unresolved Issues in Placement Criteria

Both of these sets of criteria provide relatively objective guidelines for treatment placement which are generally consistent with recommendations found in the treatment literature. The NAATP criteria are somewhat more objective and more specific in describing client variables, although they do not discriminate as finely between treatment programs as the Cleveland criteria. The Cleveland criteria allow for greater authority on the part of the evaluator. For example, crucial decisions may be made on the basis of "treatment resistance." This factor, in fact, carries as much weight as "hallucinations" or "extreme malnutrition" as an indicator for intensive medically managed inpatient treatment.

Interestingly, these criteria circumvent the issues raised by experts in the field of substance abuse assessment. No mention is made of standardized instruments (beyond the criteria themselves) or of incorporation of other assessment procedures into treatment planning.

Although these criteria provide functional guidelines and specify less restrictive treatment when possible, adherence to them is, at this point, entirely voluntary and is not monitored at all. The adolescent substance abuse treatment system, with all its potential for abuse, requires systematic monitoring and evaluation. Such an effort would allow for refinement of standards as well as enhancement of services.

STAFFING OF ADOLESCENT TREATMENT PROGRAMS

Services provided in adolescent treatment programs generally center upon various types of counseling. Although the specific counseling approaches vary, these services all require some level of competence and training in human services. Specialization in substance abuse treatment is considered valuable for some purposes. However, Hubbard et al (1989) report that in the majority of the residential programs surveyed, two-thirds of the direct service hours were accounted for by non-professional staff. The percentage was lower in outpatient programs, where between one-half and two-thirds of the direct service time was delivered by professional staff. While the percentage of non-degreed staff may be somewhat lower in adolescent programs than in those primarily serving adults, these numbers suggest a need for evaluation standards for staff.

NIDA has established criteria for programs receiving Federal funding. These guidelines, however, were criticized in a report by the Government Accounting Office as too vague (GAO, 1980). For example, NIDA requirements for staff include the presence of a licensed physician as medical director, that counseling be provided by a "qualified professional" and that mental health consultation (such as psychological testing, intensive psychotherapy) be provided by a "qualified mental health professional." These requirements, according to the GAO, lack sufficient specificity.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) provides guidelines including eleven separate service components, each headed by a qualified coordinator (1989). Not all of these components are required for all types of programs. For example, a residential treatment program requires nine professional staff. JCAHO guidelines specify the availability of staff development programs of various types, including in-service education and on-the-job training. Furthermore, JCAHCO standards for adolescent treatment suggest that clinicians (including physicians, nurses, counselors, psychologists, etc.) who treat adolescents have special skills appropriate to the adolescent population, including knowledge about growth and development and the ability to obtain and interpret special information about the needs of these patients. JCAHO standards indicate, somewhat vaguely, that the "training and skills of clinicians providing alcohol and drug treatment and consultation . . .be appropriate to the type, intensity, and duration of the treatment needed."

The use of paraprofessional (non-degreed) personnel in treatment settings is well-established. The General Accounting Office (1980), in evaluating substance abuse treatment, indicated that "[skills] may best be developed from an individual's experience and background." However, the need for some level of standardization of necessary background was recommended in the same report. Specifically, lack of a national system for accreditation of substance abuse counselors was considered a major weakness of the substance abuse treatment system,with the note that "counselor competency is vital to proper treatment." Despite these recommendations almost a decade ago, no accreditation system has yet been developed. Problems in developing such a system include lack of consensus regarding appropriate measures of counseling skills, lack of agreement regarding the need to develop separate credentialing in different fields (some of which has already been done), and disagreement about placement of authority for credentialing. In most professions, licensing and certification occur on a State level, with issues of reciprocity handled by individual states, professional organizations overseeing training. Deviations from

296

this model could be seen as an infringement upon the States' autonomy.

A complicating issue in evaluating staff requirements in these programs is the norm of hiring ex-substance-abusers ("recovering personnel") as counselors, especially in residential programs. In many programs for adults, including several highly regarded in the treatment community, recovering personnel constitute fully 100% of the counseling staff (Sunshine and Wright, 1988). In one survey (Hubbard, et al, 1989), about 40% of counselors in residential programs were described as recovering or "ex-addicts", about half of the outpatient programs did not use recovering personnel at all, and the rest used them "to some extent." Disclosure of this status was not always considered appropriate. An informal estimate by an American Society of Addictive Medicine (ASAM) representative is that less than fifty percent of its membership consists of recovering professionals.

In discussing this issue further, Hubbard et al (1989) note that few studies have been completed regarding the use of addict versus non-addict counselors. One study involving adolescent treatment found no differences in retention (completion of treatment) or employment rates following treatment for adolescents as a function of whether counseling staff were ex-addicts. However, staff turnover rates were higher for ex-addicts. High rates of staff turnover have been implicated in treatment failure by Friedman and Glickman (1987).

The treatment community has responded to the vagueness of staff training guidelines by developing guidelines of its own in several different fields. For example, in 1986, ASAM developed an internal specialty certification in chemical dependence treatment known as "addiction medicine." Approximately 1800 medical and osteopathic physicians have been certified. The criteria for addictionologists are still evolving as ASAM works to have the specialty area formalized by the American Board of Medical Specialties (ABMS). At this time, the certification requirements include the following:

1. Membership in ASAM
2. Previous licensure as an M.D. or D.O.
3. Three letters of reference, including one from a supervisor

4. Board certification in an ABMS field
5. Completion of residency training
6. One year of full-time practice, or the equivalent (e.g., two years half-time) with substance abusing patients
7. Successful application for, and completion of, an extensive (five-hour) written exam.

In the past six months, ASAM has created an adolescent committee which is developing new standards (in collaboration with NAATP) for adolescent treatment programs, and is organizing a national conference in collaboration with the American Academy of Pediatrics, to be held in February 1990.

Nurses working in chemical dependency programs have developed a similar informal organization, the National Consortium of Chemical Dependency Nurses (NCCDN). Although this group is not formally recognized by the American Nursing Association, it includes approximately 3,000 members. Criteria for membership include a minimum of 4,000 hours supervised work primarily with chemically dependent individuals (the equivalent of two years' full-time work), plus thirty hours' continuing education credit in the field of chemical dependency within the past five years. NCCDN representatives report that approximately twenty percent of its members work with adolescents. The "majority" of members is described as recovering professionals, although specific records are not available (NCCDN, in telephone interview).

The National Association of Alcoholism and Drug Abuse Counselors (NAADAC) has developed comprehensive guidelines for certification of counselors. These guidelines are based a broad survey of the most frequently used standards in different states, and are accepted the Certifying Reciprocity Consortium, which has been operating since 1979. Standards include measures of knowledge bases in individual, group, and family counseling, in alcohol and drug information, in crisis skills, in treatment planning, and in referral and advocacy. All states now provide for some form of certification, usually identified as "Certified Alcohol Counselor," "Certified Drug Counselor," or a combined "Certified Addictions Counselor." Thirty-six states participate in reciprocity agreements with other states.

EFFECTIVENESS OF ADOLESCENT SUBSTANCE ABUSE TREATMENT

A number of efforts have been made to evaluate various treatment programs, and to evaluate effectiveness across programs. Research in this field has been hampered by a number of factors. Notable among these are differences in populations under study and in the services provided. For example, "adolescents" in treatment may include only youth under the age of eighteen (Noble, 1989), or under the age of twenty-one (Hubbard et al, 1989), or twenty-five and under (Landergan, 1982).

"Residential treatment," as noted earlier, includes a broad variety of programs. In the TOPS study (Hubbard et al, 1989), the entire category of "inpatient treatment" was eliminated in favor of "residential programs". Residential programs were then described as based primarily upon a therapeutic community model.

Inconsistency in assessing severity of substance abuse is also cited as a problem. Assessment and intake procedures vary widely, and under-reporting of substance abuse is probably common among adolescents, further complicating this matter (Winters and Henley, 1988). In addition, some programs consider total abstinence as the criterion for success, while others choose an individualized goal or a functional definition (e.g., no arrests, maintain school and/or employment).

Another problem in evaluation accuracy concerns the method of self-report. While under-reporting is considered to be the norm, a more serious problem is linked to the potential for differential rates of under-reporting at pre and post measurement points. In other words, factors relating to the under-reporting rate may interact with the treatment effect. For instance, clients may learn that "doing drugs is bad" (to put it simply).

If the social desirabiltiy of drug consumption changes during treatment, reporting rates may indicate a reduction in usage that could be accounted for by changes in honesty. On the other hand, one of the goals of treatment is to overcome denial. Perhaps ex-clients are more honest after treatment. Such an effect would tend to mask the effectiveness of treatment. To add to the complexity, the effects illustrated here could occur differentially as a function of the specific treatment model. Such problems underline the need to collect multiple measures of outcome from multiple sources in order to reduce the bias and idiosyncracies of any one measurement method.

Many programs report success rates only for those that complete treatment. While this may be the fairest test of the efficacy of the treatment model, the attrition rate of clients in a particular treatment modality has a validity of its own as a practical criterion.

Choosing the appropriate time for measurement of treatment effects can be problematic. There is a considerable larger number of programs who report success (in terms of abstinence) during treatment or immediately after treatment, as compared to those that can claim long-term success. Moreover, follow-up studies with any substance abusers, and particularly adolescents, are notoriously difficult to complete, due to difficulties in locating clients for follow-up. Those that cannot be located are often assumed to be at higher probability for failure, as are thin, relying on generic terms such as "residential therapeutic community" rather than providing specific information on the size, demographics, and psychographics of the client and staff populations, details of the structure, format and agenda of group sessions, or the frequencies of combinations and intensities of multiple program components.

The lack of such process evaluation has several implications. First, it is difficult to accurately categorize programs for the sake of meta-analysis. Second, interpretation of outcome effects are of limited validity. Third, potential program adopters are hampered in their attempts to incorporate new practices as a result of minimal information to guide implementation.

These difficulties continue, and efforts to assess treatment effectiveness are, too often, quite restricted in generalizability and difficult to compare. Two major efforts to compare types of programs have, however, been completed. The Drug Abuse Reporting Program (DARP) study (Simpson, 1984) initiated in the early 1970's and the Treatment Outcome Prospective Study (TOPS) initiated in the late 1970's, collected data regarding a broad variety of measures on individuals in treatment and provided follow-up information about these individuals. Unfortunately, only a small percentage of the individuals were adolescents, and tremendous changes in the substance-abusing behavior of adolescents has occurred in the past decade, further limiting the generalizability of their results.

The participants in the TOPS study provide the more recent data, but specific adolescent data from this study is not yet available (Hubbard, personal communication), and most of these adolescents were served in programs designed primarily for adult treatment.

More recent efforts include those of Harrison, Hoffman, and others, in conjunction with the CATOR network and private treatment settings. (CATOR, 1987). These data provide valuable information about the effectiveness of the private settings who utilize the CATOR system and about client characteristics within these settings. These studies, however, are limited in scope, since participation in this system is restricted to private settings with enough interest in external evaluation of outcome to pay for this service. Moreover, almost half of their sample was unavailable at one-year follow-up and those that were located were simply interviewed by telephone regarding their substance abuse habits.

Friedman and his associates at the Philadelphia Psychiatric Center have completed a number of outcome studies, funded largely by NIDA, between 1979 and 1985. These studies include a wide range of demographic and treatment variables. In some cases, these studies involve specialized analyses of CODAP data while in others, they collected data from programs recommended by Single State Agency heads. These studies were focused primarily on determining specific client and programs characteristics associated with treatment outcome.

Finally, Catalano, Hawkins, and their associates at the University of Washington have completed two major meta-analyses (Catalano, et al, in press; Hawkins, et al, in press) reviewing prior research on both prevention and treatment. Their work includes a study-by-study critique of research methodology in this area. These comprehensive reviews, including most relevant literature produced between 1975 and 1988, provided a strong basis for our consideration of outcome studies.

Despite the problems in evaluating treatment research, certain findings seem relatively consistent. One is the general conclusion that adolescents who participate in treatment fare better than those who do not (Hubbard, 1989; Friedman & Beschner, 1989), at least at the point of short-term follow-up (less than one year). The extent of the differences vary in different studies and may relate to factors such as treatment methods, client characteristics, and severity of substance abuse. These factors, and how they affect treatment effectiveness, will be discussed in more detail below.

Overall, the data regarding most effective type of treatment is equivocal. For example, comparisons of inpatient versus outpatient treatment offer no conclusive evidence that either modality is clearly more effective than the other in reducing substance use among its respective clients. Interpretation of this literature, however, is confounded by the likelihood that differences exist in the client populations. For example, clients treated in outpatient programs are likely to evidence less severe substance abuse, thus, their relative success in less structured treatment is less remarkable. Additionally, different studies yield different results. For instance, in the two largest national studies (DARP and TOPS, described previously), comparisons of inpatient versus outpatient treatment resulted in contradictory results. Residential clients fared better in TOPS (Hubbard et al, 1985) while outpatients fared slightly better in the DARP study (Simpson and Sells, 1978). However, as Catalano (1989) points out, neither of these programs controlled for variables such as differences in client populations or statistical significance of reported differences.

Another fairly consistent finding is that the two substances most commonly abused by adolescents, alcohol and marijuana, are the most resistant to treatment (summarized by Beschner, 1986). Finally, most researchers agree that more comprehensive and controlled studies are needed, with more consistent intake procedures and clearer definitions of treatment approaches and outcome measures, before treatment modalities can be evaluated (Catalano, 1989; Winters and Henley, 1988).

A more successful approach to this problem has involved efforts to identify factors which affect treatment success. These factors include pretreatment factors and factors relating to the treatment services themselves. A better understanding of these issues allows for more specific focusing of research questions and better opportunities to individualize treatment. In considering these factors, it is important to note that they may interact in ways not evaluated by the studies in which they were initially considered.

A number of studies have considered how factors such as age, sex, ethnic characteristics, and prior history relate to treatment outcome. In some cases, the findings seem contradictory. Harrison and Hoffman (1989) state that "sociodemographic and background factors have little predictive value with respect to treatment outcome for adolescents (p. 48)." However, their sample, which was drawn from private treatment settings, may have been more sociodemographically heterogenous than those in broader studies.

Laundergan (1982) reported that younger clients were less likely to consider themselves "chemically dependent," and more likely to use drugs and alcohol at follow-up, but his sample included a far larger age range than adolescents-only. However, this finding may be important when coupled with Harrison and Hoffman's (1989) indication that acceptance of chemical dependency is a significant predictor of treatment success. Hubbard et al (1985) found that age was inversely related to treatment success in outpatient programs but positively related in residential programs. Thus, younger clients (ages 17 and under at intake) in residential treatment are more successful if they stay in treatment longer, but those in outpatient treatment were more successful if their course of treatment was shorter. These findings were not true of 18 and 19-year-old adolescent clients (Hubbard et al). Of course, these differences may reflect differences in drug usage. For example, it is possible that younger adolescents in residential treatment are more uniform in their abuse, and at a relatively severe level. They then benefit more from longer treatment. Adolescents in outpatient treatment may show more variation in severity. Those who stay in treatment longer may actually have more severe problems and be least responsive to treatment.

In considering only residential clients, research has been directly contradictory regarding the effect of age on "retention" or completion of a treatment program to the satisfaction of the staff. Fiegelman (1987) found that older (over 15 years of age) adolescents were more likely to complete treatment while Friedman, Glickman, and Morrissey (1986) found that "relatively younger" clients were more likely to remain in treatment. The latter study did not specify an age cutoff for "older" or "younger."

The value of program completion or time in treatment as a predictor of success has been questioned by at least two authors. Both Hubbard (1985) and Rush (1979) indicated that in outpatient settings, time in treatment is negatively correlated with certain outcome measures, such as posttreatment productivity (Rush) and frequent marijuana use (Hubbard). Friedman, Glickman, and Morrissey (1986), on the other hand, indicate that time in treatment positively correlates with posttreatment reductions in drug use.

While most studies that include race as an independent variable do not result in significant differences (eg., Harrison & Hoffman, 1989), the exceptions tend to indicate higher rates of completion of treatment and reduction of drug use for white adolescents as compared to nonwhites (Sells and Simpson, 1979; Rush, 1979). Friedman, Glickman, and Morrisey (1986) did not replicate findings regarding treatment completion, but reported that in one year's sample (1980), whites were more likely than non-whites to reduce post-treatment drug usage. This finding did not hold for the previous year's sample.

Fiegelman (1987) reported that Jewish adolescents were twice as likely as others to complete a day-treatment program. He indicated that this finding is consistent with other studies indicating that Jewish people more readily accept psychotherapeutic help. He also found that adolescents whose fathers are professionals are more likely to complete treatment. The meaning of these factors is unclear, although it is possible that the "professional" fathers simply had sufficient financial resources to pay for continuing treatment.

Behavior prior to treatment is, not surprisingly, a strong predictor of behavior following treatment. Youth whose substance abuse was initiated at earlier ages are less likely to complete treatment (Fiegelman, 1979; Rush, 1979). These youth tend to experience greater degree of family discord and other problems, including resistance of authority, which may make it more difficult for them to cooperate with treatment (Harrison &

Hoffman, 1989). The same authors suggest that adolescents who report polydrug use are also more likely to drop out of treatment, as are clients who are depressed and those whose educational history includes failure.

It is possible that these behavioral characteristics relate to the same group of adolescents -- a depressed, impulsive subgroup of young people whose unhappiness and poor self-esteem lead to academic failure and school dropout, and to early and indiscriminate drug use in efforts at self-medication. Adolescent substance abusers showing any of these signs should be assessed carefully for other risk factors which may lead to treatment failure, such as poor family involvement in treatment, criminal involvement, or prior efforts at treatment (Harrison & Hoffman, 1989; Friedman, Glickman, and Morrisey, 1986).

Friedman and Glickman (1987) examined the influence of prior psychopathology on treatment outcome and determined adolescents with relatively severe psychopathology ("borderline symptoms," suggestive of unstable sense of self) are more successful at reducing drug use posttreatment. This interesting finding may reflect positive response to adjunctive treatment such as individual or group therapy.

Specific substance abused may be predictive of later treatment success. Various studies have indicated that primary marijuana abuse is negatively correlated with success, especially when measured by post-treatment use of marijuana (Hubbard et al, 1985; Friedman, Glickman, & Morrisey, 1986). Findings are less definitive regarding other substances. Catalano (1989) suggests that overall, non-opioid users have more success while still in treatment, while opioid users are more successful at follow-up after treatment. Opioid use, however, accounts for an extremely small proportion of substance abuse in the current adolescent population (NIDA National Household Survey of Drug Abuse, 1988). Unfortunately, substances such as inhalants, which are more common among the adolescent population, have received only limited attention in the literature.

Various studies have investigated the effects of factors related to the treatment programs themselves, including factors such as whether treatment is voluntary, clients' perception of staff characteristics, and the relative importance of different types of services. Data appears contradictory on some dimensions. For example, for those in outpatient treatment, time in treatment negatively predicts treatment success (Catalano, et al, 1989). This phenomenon may reflect to the greater severity of substance involvement for those youth who remain in treatment longer, rather than any negative effects of remaining in treatment. Similarly, adolescents who attend more than three AA groups weekly are actually more likely to relapse than those who attend less frequently (A.A. World Services, 1987). The former may be the youth at highest risk for relapse, who are attempting to minimize that risk through more frequent attendance. It is also possible that greater involvement in treatment programs or in self-help groups has a negative effect upon functioning, through increasing dependency upon the program, disruption of family relationships, or labeling of the youngster as the problem or identification with a reference group of substance abusers.

Since many adolescents do not actively choose to participate in substance-abuse treatment, it is notable that DeLeon (1984), examining therapeutic community placement of drug abusing adolescents, and Bastien and Adelman (1984), studying delinquents with a variety of presenting problems including substance abuse, agree that choice, or at least the perception of choice, is an effective predictor of treatment success. Both of these authors found that mandated treatment is usually followed to completion, possibly because of legal sanctions, but voluntary treatment is more likely to be considered successful. Friedman, Glickman, and Kovach (1986) found that adolescent clients' ratings of program spontaneity (i.e. flexibility in program scheduling) predicts success, while discrepancies between client and staff ratings of control and autonomy predicts failure. Overall, adolescents appear to benefit from the perception of involvement in decisions regarding their treatment.

Friedman and Glickman (1986), Friedman, Glickman, and Kovach (1986) and Harrison and Hoffman (1989) have examined the effects of various program variables upon treatment outcome. They agree that the provision of adjunctive services, and particularly recreational services, are an important predictor of program success. They suggest that programs such as challenge-adventure courses and recreational clubs are especially important because they teach adolescents alternative leisure-time activities as well as enhancing self-esteem. Educational and vocational training and counseling are usually mandated by accrediting and licensing agencies in adolescent residential treatment programs.

Friedman and Glickman (1986) indicate that provision of these services is an effective intervention in outpatient treatment as well. In their review of program variables, they found that time spent in educational placement was a powerful predictor of reduction of drug use. Social skills and assertiveness training are considered valuable adjunctive treatment. These are skills which provide a means of resisting pressures to use drugs and developing alternative forms of gratification and social interaction. Studies of adult substance abusers have utilized relaxation training and cognitive-behavioral training, which provide new emotional and cognitive responses to familiar situations, to resolve continued experiences of drug cravings. For example, the client is taught to recognize situations in which cravings are likely to occur, then to identify the early signs of craving, then to re-interpret the experience of craving with another, more acceptable interpretation (such as anxiety around social interactions, need for entertainment, etc.). These cravings are associated with treatment failure among adolescents as well as adults (De Jong and Heinrich, 1984), suggesting the need to evaluate these special treatment modalities with the adolescent population. Cook and Petersen (1985) and Morrison et al (1989) describe the development of programs integrating these activities into a therapeutic regime.

Friedman, Glickman and Kovach (1986) examined the effects of staff characteristics on treatment success. One interesting finding was that counselor reports of success using either analytic or confrontive therapy with clients have been found to predict treatment failure, as measured by continued substance use or relapse. This seemingly indicates that counselors are poor judges of their own success.

This same study also yielded the result that counselors and adolescent clients tended to produce differing ratings on measures such as clarity of program expectations and acceptance of expression of anger and aggression. These factors, however, did not relate significantly to outcome. Statistically significant relationships were found, however, on other measures. For example, staff ratings of how explicitly they addressed personal problems and feelings with their clients correlated with reduction in drug use, as did measures of practical orientation towards preparation for release from the program, and measures of organization and order within the program.

Family involvement is also consistently found to be a positive influence upon program cooperation and treatment effectiveness (Fiegelman 1987; Barrett 1988). Stanton and Todd (1981) report that family treatment is more effective than individual therapy in the treatment of substance abusers. Bry (1988) supports this finding in her discussion of family-based approaches to adolescent substance abuse treatment, in which she explicates several specific approaches and reviews effectiveness findings. Among the treatments with which she reports success are paradoxical interventions and behavioral family therapy.

Friedman (1989) compared the effectiveness of family therapy with separate educational groups for parents. On most outcome variables, family therapy was more effective, although improvement was found for both groups. In a multidimensional analysis of factors associated with treatment success, Friedman and Glickman (1987) reported that the number of family sessions per month correlated with completion of treatment. In another article, Friedman (in press) suggests that family therapy is effective with adolescent substance abusers because the substance abuse is seen as symptomatic of other pathological dynamics in these families, such as the adolescents' being used to vicariously satisfy the parents' need for gratification of disinhibition.

Szapocznik et al (1988) discuss the difficulties in engaging families of substance-abusing adolescents in treatment, and report success in changing family relationships by intervening with only one family member. These findings may be particularly helpful, given Harrison and Hoffman's (1989) report that in the private residential settings in which their data was collected, mothers were much more likely to be involved in their adolescents' treatment than were fathers. Often the number of family members available for therapy may be limited .

Although these findings provide valuable data regarding ways of enhancing treatment, determining the effectiveness of the adolescent substance abuse treatment system is extremely difficult, given the current state of data collection procedures. Hayes (1988) suggests that program assessment using standard statistical procedures is not only impossible but would yield information of limited pragmatic value anyway. He suggests that the limitations and confounding complexities of the "real world" are better suited to single-case research, in which the individual serves as his/her own control. This method has not been widely applied to substance abuse treatment, but offers a promising alternative to continued efforts at drawing conclusions from aggregated data with poorly defined terminology and varying measures of treatment and success.

THE ECONOMICS OF TREATMENT:
ISSUES OF ACCESS AND UTILIZATION

Individual Costs

Substance abuse treatment for adolescents is generally expensive, though the range is substantial. Wright (1989) has provided estimates of the cost of a continuum of care ranging from education through medically intensive rehabilitation (see Table 1. A one month stay in a private, for-profit hospital

TABLE 1

Treatment Setting For Alcohol and Drug Treatment in Ascending Order of Treatment Cost

Treatment Setting	Approximate cost
Alcohol education programs	$150-300
Social detoxification facilities	$150-500
Employee assistance or other counseling	$250-1000
Halfway house or other sheltered living program	$750-2000
Medical or mental practioner (includes outpatient detoxification)	$1000-1500
Low intensity outpatient alcoholism program	$1000-2000
Inpatient medical detoxification	$1500-3500
High intensity (day care) outpatient program	$2000-5000
Short-term (14-28) residential program (with low intensity aftercare program)	$5000-10,000
Short-term (14-28) relapse program (with high-intensity, extended aftercare program)	$8000-15,000

TABLE 1 (cont.)

Specialty hospital intermediate program (1-6 months inpatient care with extended aftercare, and sheltered living setting post-discharge)	$10,000-25,000
Long-term (6-24 month) rehabilitative program (with custodial care capabilities)	$15,000-30,000
Medically intensive intermediate rehabilitation (with intensive medical and rehabilitative care)	$15,000-50,000

will cost at least $4,000-5,000, may average around $10,000 and can be as high as $20,000. This is slightly higher than adult treatment, partly because adolescents require specialized services (education, family therapy) not always provided to adults. Publicly funded hospital services, usually absorbed by the state, uniformly costs less. The least expensive cost about $1,000 monthly, though $6,000 per month is not uncommon. For comparison, one month in a private nonprofit halfway house is likely to cost between $600 and $1000. Publicly funded programs more frequently offer treatment by the day, rather than by the month.

Day treatment is considerably less expensive. Private for-profit treatment is likely to cost around $3000 per month and public programs somewhat less. Outpatient substance abuse treatment is comparable in cost to other psychiatric care, with fees charged by the hour for individual and group therapy. Community mental health centers often provide services at a cost of only a few dollars to the client, and approximately thirty dollars per hour compensated by state funds.

Access and Insurance

Whether adolescents in need of services are in fact able to obtain them, whether the services are appropriate for their level of need, and what factors affect their ability to utilize these services are all critical issues. "Access" refers to factors affecting the adolescent's seeking of treatment. "Utilization" refers to factors affecting the provision of services by appropriate personnel. Ideally, these factors operate in such a manner that both access and utilization are maximized. That is, adolescents in need are able to locate appropriate services, and service providers are able to deliver treatment to appropriate clients. In such a system, client needs and provider services would closely correspond.

Burns and Taube (1989) suggest that factors affecting access fall into three general categories: availability, affordability, and approachability. In the case of the adolescent substance abuse treatment system, these factors may ultimately boil down to the issue of affordability, which in turn boils down to the issue of insurance coverage. Costs for most of these services costs represent a considerable burden to the uninsured, of which there are 4.6 million between the ages of 10 and 18. The proportion of adolescents who are uninsured has increased over the last five years (Kronick, 1989). Furthermore, poor adolescents, who have been identified as being at increased risk for substance abuse, are less likely to be insured. Medicaid only covers 40% of the low income adolescents in this country. One half of adolescents aged 10-18 with family incomes below 50% of the poverty rate do not have Medicaid coverage. Furthermore, Medicaid fails to cover substance abuse services in 20 states. As can be seen in Figures 22 and 23, only a small minority of treatment units accept Medicaid coverage. It should be noted that the data reported in these two figures is based only on those units composed of 75% or more adolescents. While these units account for a majority of adolescent drug treatment clients (473 units), they account for a small minority of adolescent alcoholism clients (281 units).

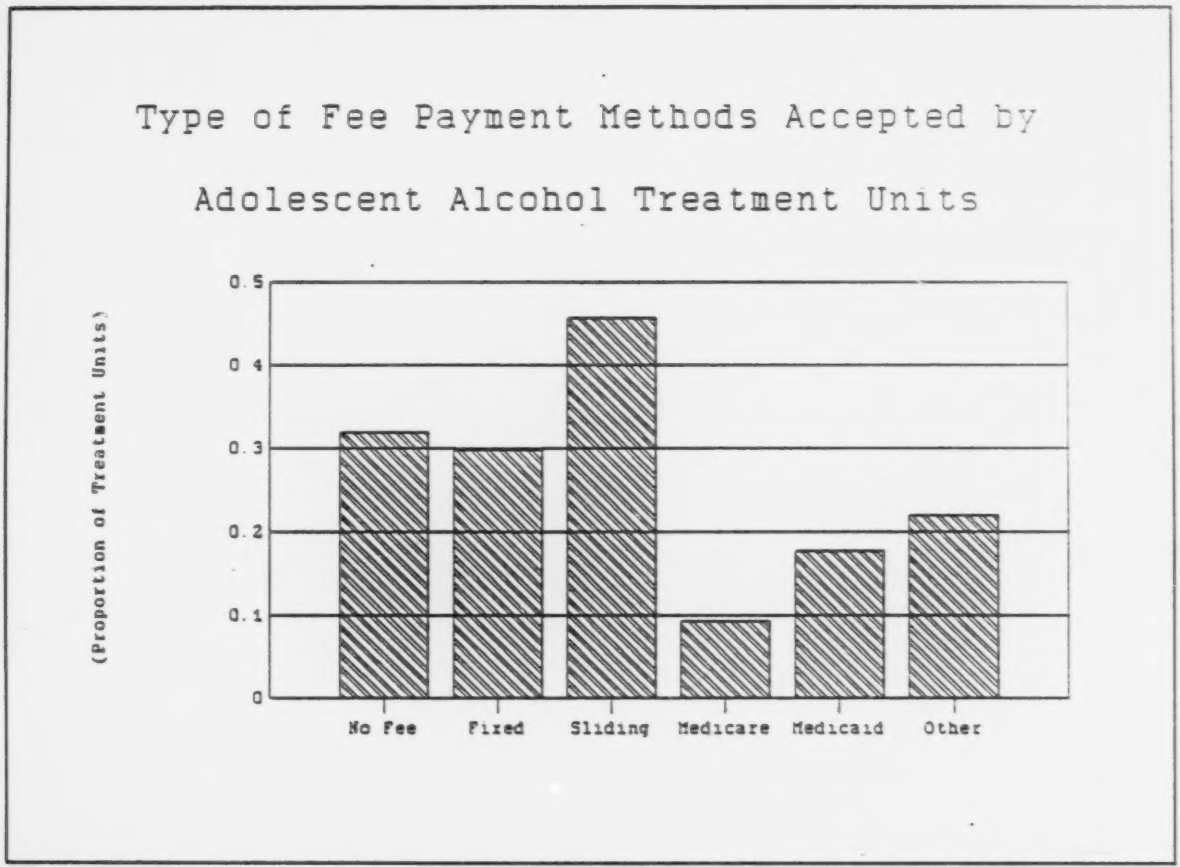


Figure 22 Proportion of adolescent alcoholism treatment units (serving 75% or more adolescents) accepting various fee payment methods (Data estimated from NDATUS, 1989)

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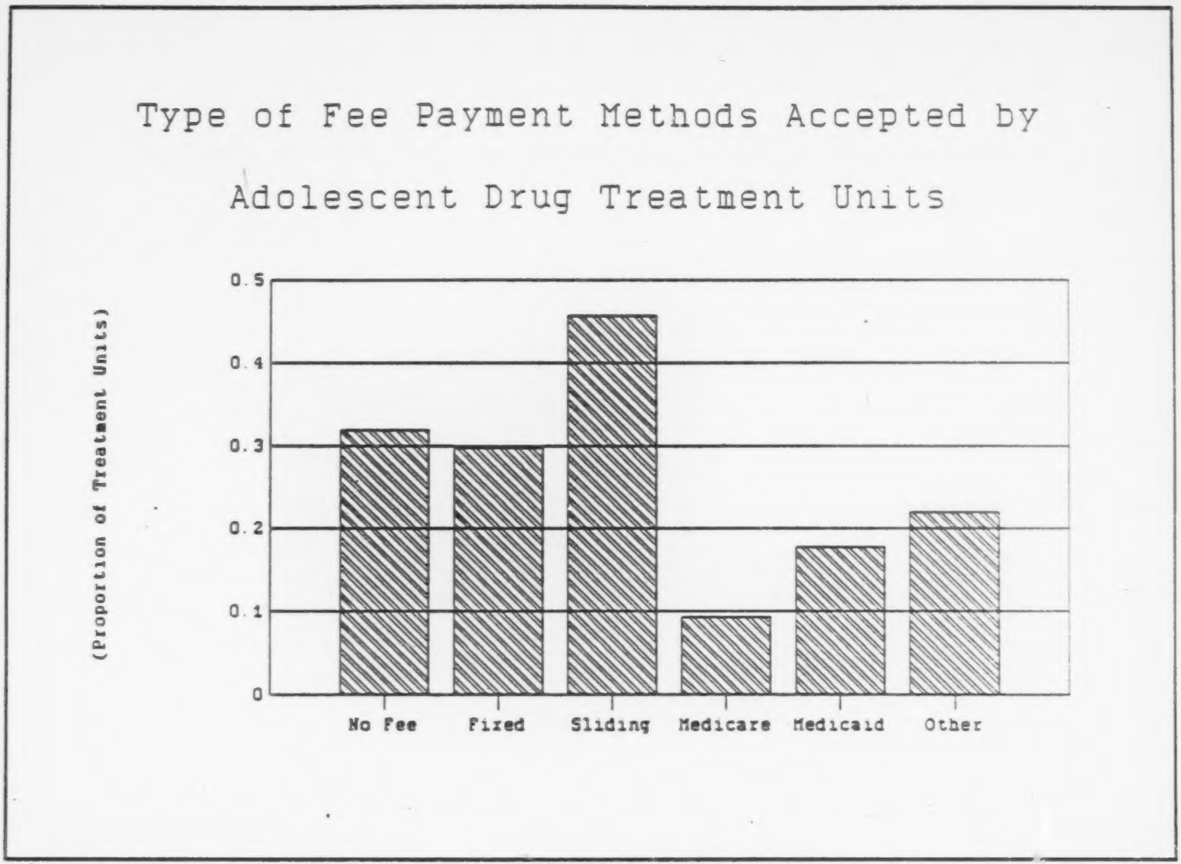

Figure 23 Proportions of adolescent drug abuse treatment units (serving 75% or more adolescents) accepting various fee payment methods (data estimated from NDATUS, 1989).

Uninsured adolescents may seek treatment through community mental health centers or private non-profit agencies, which often operate on a sliding-scale basis. Unfortunately, these agencies often have long waiting lists, limited staffing, and both a lower range and intensity of services.

In terms of availability, it seems reasonable to conclude that the treatment system is growing, but that it is still inadequate, particularly for treatment of alcoholism. There was a 500% increase in the number of professional providers of psychiatric and substance abuse services between the years 1982 and 1987 (NIMH, 1988). Undoubtedly there has been further growth since 1987. However, given the rates of abuse and treatment described earlier, more growth could easily be absorbed. As was described earlier, the entire capacity of the treatment system in 1987, operating at peak utilization and efficiency is insufficient for the needs. Furthermore, there is a specific need for more services for those that are uninsured.

The reality of these dynamics of service availability and economic structures can be illustrated by examining one geographic area with which the authors are familiar, Atlanta. The metropolitan area includes at least eight different inpatient and residential facilities which serve adolescents. One of these facilities offers an occasional "scholarship," although the criteria under which financial aid is available are unclear. The others require insurance payment. The only other services available to uninsured, low-income youth in the area are outpatient services through community mental health centers. The nearest publicly funded inpatient treatment facility is approximately fifty miles away, treats only girls, and has a long waiting list. Two non-profit halfway houses are available, but these are most frequently used as aftercare or transitional facilities for youth who have already been hospitalized. They also have waiting lists. One of the private hospitals shared with us their referral list for low-income youth. Fewer than one-quarter of the facilities on the list actually served adolescents, although the referring hospital claims a specialty in adolescent treatment.

For those that are covered by health insurance, most will find that their insurance plans provide coverage for alcohol and drug services and the number seems to be growing. Surveys of medium and large employers conducted by the Bureau of Labor Statistics in 1982 and 1986 indicated that the proportion of companies offering substance abuse coverage increased from 50% to 70% for alcohol abuse and from 37% to 66% for drug abuse. As of 1988, coverage rates of employees in medium and large companies for drug treatment were 95% for detoxification services, 77% for inpatient rehabilitation and 84% for outpatient rehabilitation. Coverage for alcohol abuse was one to three percentage points higher in each category. Insurance companies are increasingly willing to cover day treatment and outpatient care for substance abuse, although the percentage reimbursed is often lower than for inpatient treatment. In most cases, substance abuse treatment is covered under the mental health benefit, thus limiting, in many cases, later mental health treatment.

This increased coverage, along with increased demand for services and expanded and mandated benefits have increased the total dollars spent on substance abuse services care. Approximately, 20% of all healthcare is now spent on psychiatric and substance abuse services (Employee Benefit News 1988).

Coverage for drug abuse is now mandated in 17 states and alcohol treatment is mandated in 39 states. In response, the insurance industry is looking to managed care or some other form of oversight as a means of controlling costs. For instance, Blue Cross and Blue Shield of Minnesota's review of charges for adolescent chemical dependency claims led to a denial of 48% of all charges reviewed.

Over 90% of HMO's offer at least one benefit package that covered alcohol and drug abuse (Shadle and Christianson, 1989). However, an earlier report (Shadle and Christianson, 1987) indicated that over 70% of standard plans excluded long term alcohol and drug rehabilitation for adolescents. Special adolescent programs are offered for by 62% of HMO's for alcohol treatment and by 70% for drug abuse treatment. The 60% of the HMO's that are operated on a for-profit basis are more likely to use primary care physicians as gatekeepers controlling access to such treatment and provided coverage for fewer outpatient visits. The authors concluded that HMO's do not make extensive use of alternatives to hospitals (e.g., half-way houses, residential treatment) when outpatient care is insufficient (Shadle and Christianson, 1989).

National Costs and Public Funding

State expenditures for alcohol and drug treatment exceeded $1.6 billion dollars in 1988 (Butynski, Canova, and Jenson, 1989). This represents a 61% increase over 1985. States provided funds to 6,926 treatment units in 1988. The relative proportions of private and public funds for adolescent drug and alcohol treatment units are presented in Figure 24.

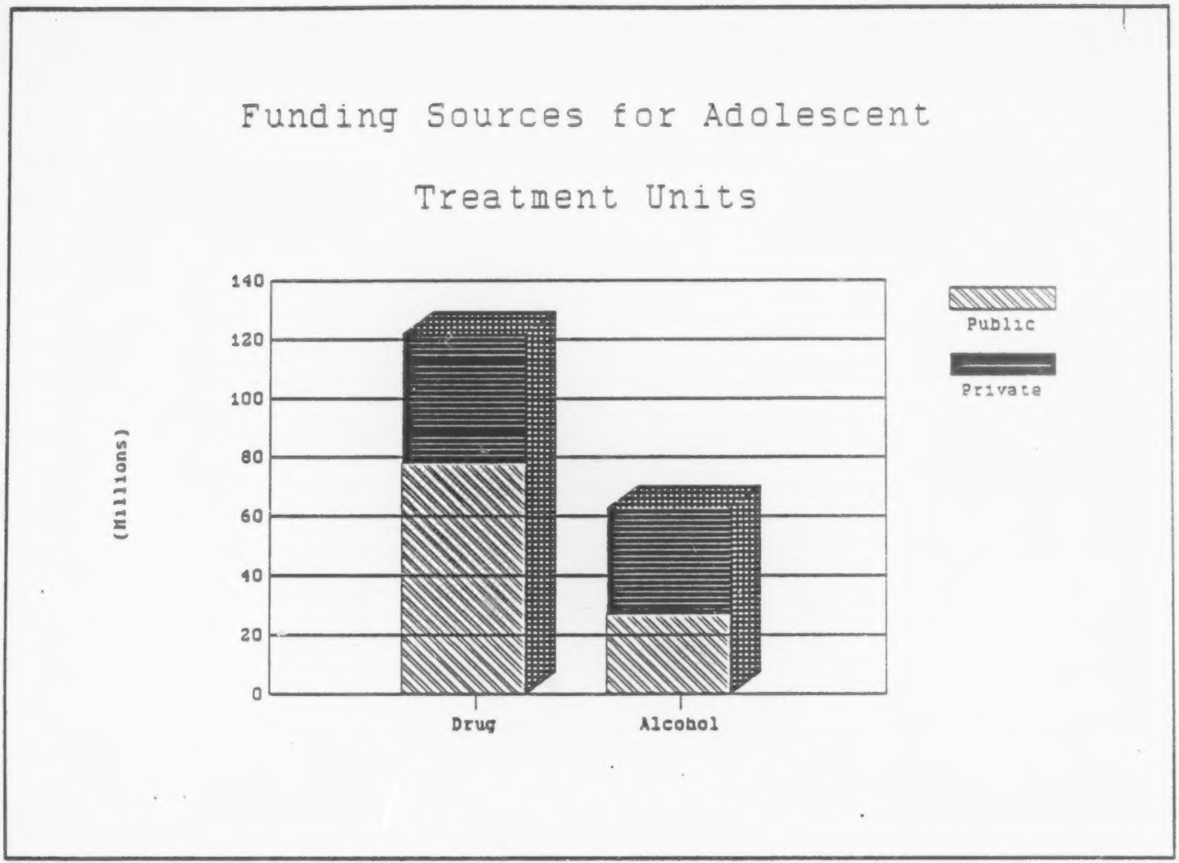

Figure 24 Funding sources for adolescent alcohol and drug abuse treatment units (data estimated from NDATUS, 1989)..

While approximately one-half of adolescent alcohol clients received treatment in settings receiving some public support, adolescent drug abuse clients are served primarily in settings receiving no public support (see Figures 25 and 26).

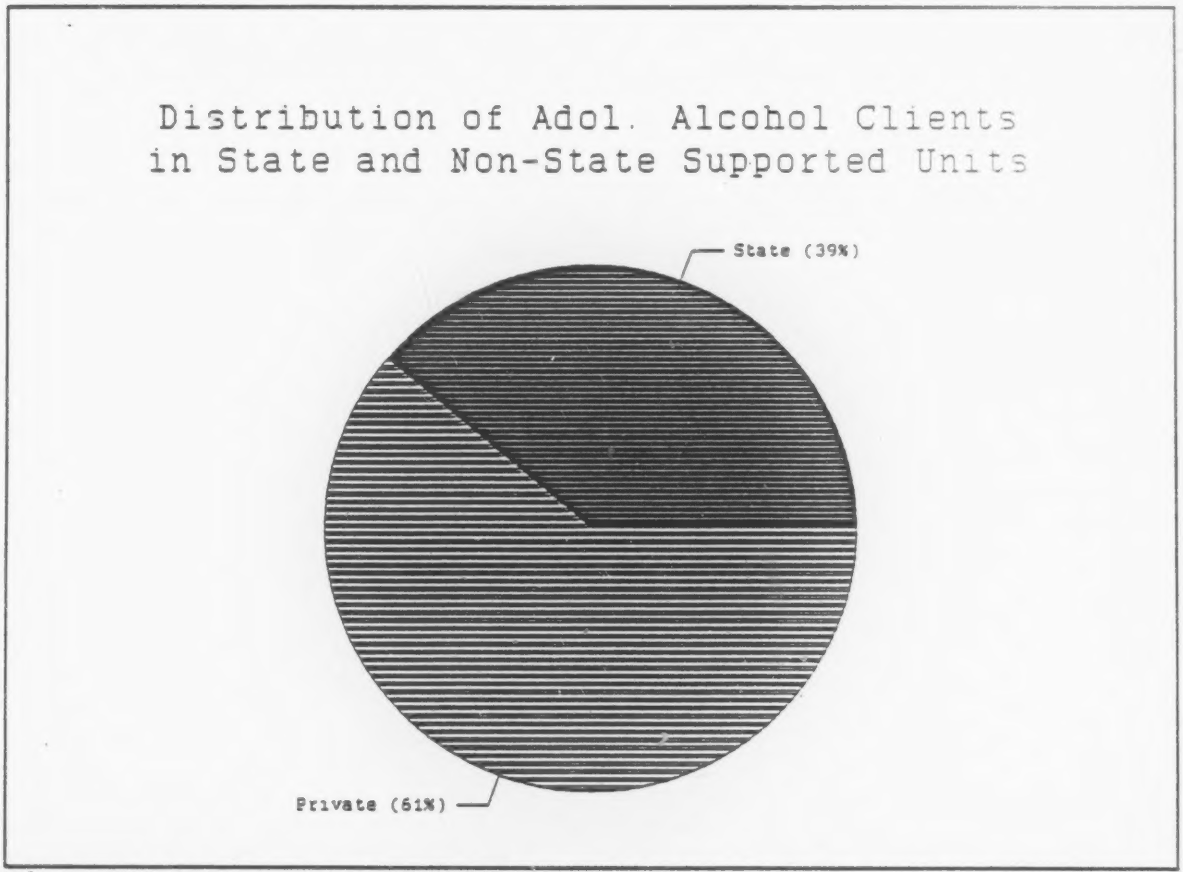

Figure 25 Proportion of adolescent alcohol abuse clients receiving treatment in units receiving public support and no public support (private) (data estimated from NDATUS, 1989; Butynski, Canova, and Jensen, 1989).

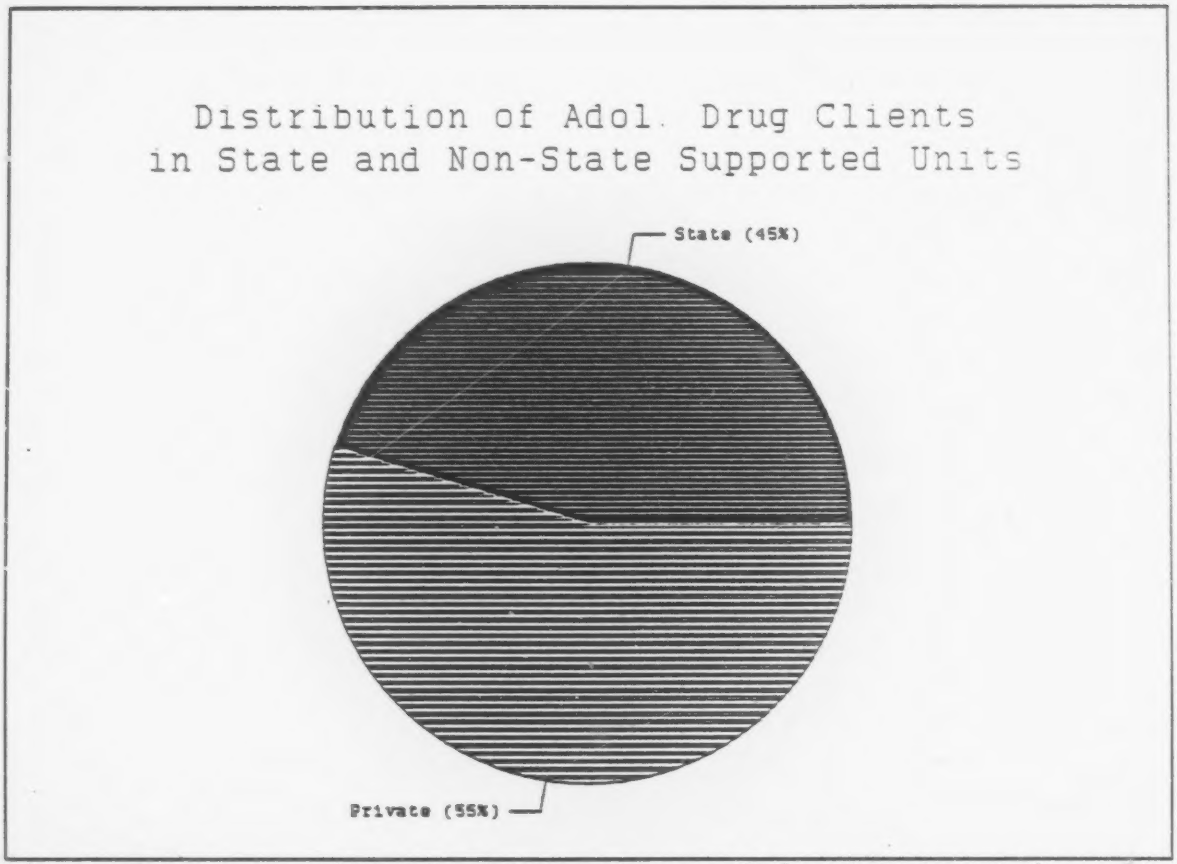

Figure 26 Proportion of adolescents receiving treatment in units receiving public support (state) or no public support (private) (data estimated from NDATUS, 1989; Butynski, Canova, and Jensen, 1989).

The proportions of clients supported by state monies is even smaller, since all clients within a unit would be categorized as treated in a publicly supported unit if the unit received support for even one client.

While the statistics in the above paragraph refer to total funds provided, it is clear that adolescents account for a minority of the services administered through the state. Youth represent 3.8% (46,176) of all admissions for alcohol services and 14.5% (75,388) of admissions for drug treatment provided at state supported facilities. A survey of state agencies showed that the expansion of services for youth was one of the major policy issues of concern (Butynski, Canova, and Jenson, 1989).

Economic Issues

There are three major issues with respect to economics and substance abuse treatment for adolescents. First, though the gap is narrowing, there is still a considerable gap in insurance coverage for substance abuse. Approximately 15% of all adolescents are not covered by insurance and approximately 15-20% of all insurance plans do not cover substance abuse services past detoxification. Medicaid does not adequately fill this gap.

Second, public funding for adolescent treatment does not fill in the insurance gap. While expenditures have increased, the numbers in need still exceed the numbers receiving treatment. There has been a verbal commitment on the part of politicians, professionals and the public to provide adequate treatment to all youth in need. While recent increases in Federal spending have moved us closer to this state, reaching this goal is an expensive, though not impossible process. Given the national visibility of the issue, there will be no greater time to secure the funds necessary to provide treatment to the broad cross-section of adolescents in need, and to the underserved low-income population in particular.

Third, there is considerable concern that the adolescent substance abuse treatment system is not driven by the amount of need. Needs have not changed dramatically during this time of increased public spending and the development of new private programs. Nor can the changes in system function be attributed to either the creativity of practicing professionals or a new knowledge base uncovered by applied researchers, though there are dedicated and talented professionals in each domain. Some suspect that the treatment system is economically and politically driven. The public concern and media attention concerning this issue may have interacted in an accelerating fashion to create demand, and ultimately the financing, for an expanded treatment system. Futhter, there is concern that the economic status of an individual is the single most significant determining factor regarding treatment received. Those with money, and therefore insurance, have access to intensive services. Those with no insurance have few, if any choices. While increased public expenditures have increase the amount of service available to the poor, there is no doubt that the basic inequity of treatment remains.

One effect of the growth of the private sector and increased availability of third party payments is that adolescents who are insured are often not only able to locate services, but are actively recruited by private facilities. Not coincidentally, private facilities are utilized at a much lower rate than public facilities. The 1987 NDATUS report suggests that the difference is in the range of 89% capacity for public facilities and 63% for private for-profit facilities, but these figures do not specifically refer to adolescent beds. As when there is a surplus of expensive office space, developers must actively search for tenants. Active recruitment efforts by private chemical-dependence programs are apparent in media efforts. Many private facilities advertise widely on television and in newspapers, describing examples of adolescent behaviors which may indicate substance abuse and encouraging parents to bring their children in for a free evaluation. The behaviors they describe include such normal adolescent changes as "having new friends," and "moodiness." Evaluation procedures vary, but generally leave room for considerable subjectivity and for lack of clarity regarding the distinction between evaluation and recruitment.

The net result is that many adolescents who may need much less intensive services, if any, are committed to highly restrictive environments. The costs of overtreatment to the individual include the potential for loss of freedom and some human rights, labelling, stigma, reduced contact with potentially positive aspects of the natural environment, increased involvement and possible identification with a deviant peer group, and resentment towards parents. The costs of overtreatment to society include increased health care and insurance costs which are eventually absorbed by the public, an increase in the acceptance of repression and incarceration as a means of solving human problems, and reduced resources available for those who truly need assistance but have limited service options.

Access as a Function of Referral Source

Because denial is an integral aspect of the substance abuser's problem, youth in need rarely seek treatment without encouragement, and sometimes coercion, from others. When they do, the ability of the service provider to offer treatment without parental permission varies from state to state.

Family and friends are frequent sources of referral to private hospitals and treatment centers. In addition, private practitioners, including health and mental health providers, are likely to refer to such programs. Social service agencies, such as child welfare services, schools, and juvenile justice personnel, are more likely to refer to state and county treatment agencies. This difference may reflect constraints upon public personnel in making referrals to private agencies, a difference in the financial status of their clients, or a difference in the expectation of the referring professional. For example, a private psychologist whose client requires intensive treatment is more likely to refer to a facility with which s/he is professionally associated, in order to maintain contact with the client and enhance continuity and coordination of care.

Often, adolescents are referred for substance abuse treatment only after they have come to the attention of authorities or helping professionals. Troubled youth most frequently are initially recognized by school authorities in response to issues such as disobedience, academic difficulties, and truancy. School counselors may be able to assist with screening and recommendations and referrals for students with a variety of difficulties, including substance abuse. However, follow-up on these referrals is often left up to the student or the parents. Some school systems have included personnel such as school social workers and psychologists who serve a more directly therapeutic function or act as "case managers" to facilitate treatment. Others have developed Student Assistance Programs which address substance abuse problems.

The juvenile justice system is in a position to mandate treatment for adolescents who come to their attention. In some cases, treatment may be a diversionary route or alternative to incarceration.

Professionals who are in a position to identify youth with substance abuse problems often lack the knowledge or the awareness to do so. As Brookman et al () point out, pediatricians often fail to recognize substance abuse problems, and rarely encourage adolescent patients to discuss such matters at routine school or sports physical examinations. Brookman suggests that this failure relates to misunderstandings regarding the most effective ways to explore such problems, and encourages physicians to meet with teenagers alone as well as with parents, and to question directly about substance abuse and family problems, rather than focusing on peers.

CONCLUSIONS

When given the task of describing the adolescent drug treatment system in this country, the first obstacle is the realization that there is not one system.

First, there are a variety of professions involved. Each has its own orientation, goals, methods, and means of assessing both need and success. This variance has led to the creation of several systems of standards for care, as well as systems for accrediting professionals to work with adolescent substance abusers.

Second, these various systems serve different populations. These different populations are defined primarily by ability to pay, rather than characteristics of the problem itself. Costs of services varies tremendously from setting to setting (public, private non-profit, private for-profit) and as a function of modality (inpatient, residential, outpatient). It is not surprising that the affluent or those with insurance coverage are likely to be seen in private settings that tend to offer more intensive services. Low income adolescents are at the mercy of what local public services may be available.

Third, these public services vary tremendously from state to state. Variations occur with respect to the funds available for inpatient and outpatient services, as well as with respect to policies regarding the mandating of substance abuse coverage and the use of Medicaid to support substance abuse treatment.

Fourth, utilization rates vary substantially. The variance primarily occurs between public settings, which are often stretched to capacity, and private (particularly for-profit) settings which may actively recruit clients.

Fifth, primarily because of the variation in payment structures and utilization rates, definitions of need vary as determined by setting gatekeepers. Like a hospital emergency room, priorities for treatment are relative to the numbers of vacant beds. In addition, the involvement of multiple professions means that assessment is not completed in any standard manner.

Sixth, definitions of success are inconsistent. More to the point, most commonly no measure of success is used. Most settings do not feel that evaluation is a priority, given limited funds available for treatment.

Consequently, services are not differentiated when they should be. In other words, there is not enough variation in services provided as a function of presenting problem, the characteristics of the youth, the family, and the larger environment. Assessments are not usually conducted in a manner that leads to such differentiation.

On the other hand, services are differentiated where they shouldn't be. That is, the same adolescent with the same characteristics of abuse will receive very different treatments depending on the ability to pay, the existence of insurance, and the orientation of the treatment setting approached. Treatment services tend to be determined by characteristics of the provider and the funding source, rather than characteristics of the state of need.

Consequently, we are left with a description of multiple systems with varying degrees of overlap, similarities, and coordination. However, this state of affairs is not entirely negative, nor unnatural. The development, and certainly the growth, of treatment for adolescents is a relatively recent phenomenon. The increased needs, or at least the perception of such, has caused a frantic search to find resources and provide services. It is not surprising that such growth would begin in a haphazard fashion.

Furthermore, there is nothing in the literature or in the professional experience of those we have interviewed, to suggest that there is one preferred system of treatment. The literature on effectiveness is incomplete. Given that no one model of treatment has emerged as the definitive "answer" (nor is it likely to), practitioners have primarily relied on personal experience, the experience of colleagues, and traditional methods of treatment.

The traditional models for treatment that do exist tend to be monolithic. Most treatment modalities do not allow for the variations that exist between individuals as a function of their history, current use, and environment (family, peers, school, and community).

Most of these models were imported and adapted (to varying degrees) from models for adult treatment, which in turn were largely white male-oriented. It is increasingly necessary to develop models which are specific to the characteristics of adolescents, to the characteristics of different cultures, and to the characteristics of different substances of choice.

The difficulties in describing the system(s) are exacerbated by the state of data. While the data collected by NDATUS and NASADAD were useful in describing the system, they were both incomplete. NDATUS uses primarily a point prevalence method which yields the numbers in treatment on one day. Without information as to the length of treatment, little is known about the totals served in one year, though we have made such an estimate. In addition, the NDATUS report is unit-based and not client base. Therefore, it is impossible to disaggregate adolescents by any other descriptive variable in order to learn the characteristics of these adolescents and details of their treatment. The NASADAD report has considerable data on state expenditures and clients served, but very little of this data is disaggregated by adolescents. To be able to provide more data on adolescent treatment than are provided in this report (much of which was estimated based on assumptions regarding the transformation of existing data), these reporting systems will need to be more fine-tuned. It is particularly important to get a better understanding of what kinds of adolescents are getting what kinds of treatment in what kinds of settings.

In addition, the data on effectiveness of treatment is limited. While the overall conclusion that some treatment is better than no treatment seems to be pervasive across reviews, there is the continuing problem of detail. What kinds of treatment work best with what kinds of adolescents in what settings provided by what providers?

This is not a question which will be answered by a single study or in a single year. The need for increased funding for treatment services is accompanied by an equal need for increased funding on treatment research. The development of new models, tested in a variety of settings with a variety of clients must employ an action research model that includes strong commitment to evaluation.

Finally, the comparison of epidemiologic and treatment statistics suggests that there are definite gaps between need and treatment levels. Current system capacity is insufficient, even assuming total and efficient utilization. This is particularly true with respect to alcohol use and treatment. Despite the popular perceptions regarding the nature of our adolescent drug problem, there are approximately 1.7 adolescents in drug treatment for every adolescent claiming to use cocaine once a week or more. On the other hand, there are seven adolescents having five or more drinks more than once a week and ten adolescents concerned about their own alcoholism (or potential for it) for every adolescent receiving treatment for alcohol abuse.

Increased attention to the exact parameters of the problem, increased commitment to treating those in need with a service that is matched to the characteristics of the youth and not the provider, and increased knowledge regarding the effectiveness of such services must be supported simultaneously and vigorously.

Figure 1 Distribution of adolescent outpatient clients by modality (data estimated from NDATUS, 1989). 54

Figure 2 Distribution of adolescent drug abuse clients according to inpatient-outpatient setting (data estimated from NDATUS, 1989) 60

Figure 3 Distribution of adolescent alcoholism clients according to inpatient-outpatient setting (data estimated from NDATUS, 1989). 61

Figure 4 Distribution of adolescent outpatient clients according to primary substance (data estimated from NDATUS, 1989) 62

Figure 5 Distribution of adolescent inpatient alcoholism clients according to type of care in single care alcoholism only and combined units (data estimated from NDATUS, 1989) 73

Figure 6 Distribution of adolescent alcoholism clients according to unit location in single location alcoholism only and combined units (data estimated from NDATUS 1987). 75

Figure 7 Distribution of adolescent drug abuse clients according to environment in single environment drug only and combined units (data estimated from NDATUS, 1989) 76

Figure 8 Distribution of hospitalized adolescent drug abuse clients by treatment modality 77

Figure 9 Distribution of residential adolescent drug abuse clients by treatment modality (data estimated from NDATUS, 1989) 78

Figure 10 Distribution of adolescent inpatient clients according to primary substance (data estimated from NDATUS, 1989) 82

Figure 11 Numbers of adolescent alcoholism and drug abuse clients served in 1987 (data estimated from NDATUS, 1989) 85

Figure 12 Distribution of adolescent clients on drug treatment units by proportion of adolescents on unit (data estimated from NDATUS, 1989) 86

Figure 13 Distribution of adolescetn clients on alcoholism treatment units by proportion of adolescents located on unit (data estimated from NDATUS, 1989) 87

Figure 14 Growth of adolescents as a proportion of total clients in treatment for alcohol and drug abuse from 1982 to 1987 (data estimated from NDATUS, 1989) 89

Figure 15 Distribution of adolescent and adult alcoholism and drug abuse clients by sex (data estimated from NDATUS, 1989) 90

Figure 16 Number of adolescents using cocaine once per week or more in 1988 compared to number of adolescents receiving drug abuse treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1989). 94

Figure 17 Number of adolescents using crack once per month or more in 1988 compared to the total number of adolescents receiving drug treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1989). 95

Figure 18 Number of adolescents reporting use of marijuana once per week or more in 1988 compared to the number of adolescents receiving drug treatment in 1987 (data estimated from NDATUS, 1987 and National Household Survey, NIDA, 1989). 96

Figure 19 Number of adolescents drinking alcohol once a week or more in 1988 compared to the number of adolescents in alcoholism treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1989).
. . . . 97

Figure 20 Number of adolescents reporting drinking five or more alcoholic drinks at one time, five or more times/month in 1985 compared to the number of adolescents receiving alcohol abuse treatment in 1987 (data estimated from NDATUS, 1989 and NIDA, 1988) . . . 98

Figure 21 Number of adolescents reporting being afraid that they are or may become alcoholic in 1985 compared to total adolescents in alcohol abuse treatment in 1987 (data estimated from NDATUS, 1989 and National Household Survey, NIDA, 1988). 99

Figure 22 Proportion of adolescent alcoholism treatment units (serving 75% or more adolescents) accepting various fee payment methods (Data estimated from NDATUS, 1989) 137

Figure 23 Proportions of adolescent drug abuse treatment units (serving 75% or more adolescents) accepting various fee payment methods (data estimated from NDATUS, 1989). 138

Figure 24 Funding sources for adolescent alcohol and drug abuse treatment units (data estimated from NDATUS, 1989). 143

Figure 25 Proportion of adolescent alcohol abuse clients receiving treatment in units receiving public support and no public support (private) (data estimated from NDATUS, 1989; Butynski, Canova, and Jensen, 1989). . . . 144

Figure 26 Proportion of adolescents receiving treatment in units receiving public support (state) or no public support (private) (data estimated from NDATUS, 1989; Butynski, Canova, and Jensen, 1989). 145

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